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*DIESEL RAILWAY TRACTION*

*The June issue of this* Railway Gazette *Publication, illustrating and describing developments in Diesel Railway Traction, is now ready, price 2s.*

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THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1.

### The Transport Bill and Railway Stockholders

WHEN the Committee stage of the Transport Bill is commenced in the House of Lords, probably on Tuesday next, the peers will have to cope with a great number of amendments, already estimated at well over 200. Because of the unseemly haste with which the Bill was hurried through the House of Commons, it will be more than ever necessary for the peers to subject it to close scrutiny. Presumably, Mr. K. Scott Adie, Chairman of the London & North Eastern Railway Stockholders Association, had the House of Lords in mind when he told members of the Association at the annual meeting on Tuesday, that he felt confident there would be some measure of improvement in connection with compensation; he added that, even if the Bill became law in its present form, there would still be hope for more equitable treatment of railway stockholders. His Association has approached the Conservative Party with a request that a record of all rail stockholdings as at January 1, 1948, should be taken; if and when restitution was possible it could be made. No doubt what Mr. Scott Adie has in mind is not an attempt to unscramble nationalised transport, but merely to make some adjustment to stockholders.

* * * *

### Argentine Railway Charges

Although the sale of the British-Argentine railways to the State still awaits completion—some details of the allocation of proceeds are given elsewhere in this issue—there has been a striking change of front on the part of the Argentine authorities since the sale agreement was negotiated. For a number of years, British directors of Argentine railways urged the necessity of increasing railway fares and goods charges on the Argentine administration, but with little success. Over the week-end, however, Senor Miranda, in an address to the Buenos Aires Stock Exchange, spoke of the necesssity of doubling the existing railway fares and freights, and used arguments precisely similar to those the British representatives had advanced in the past. Senor Miranda said that higher wages and social benefits for the workers would cost an additional 400,000,000 pesos (about £25,000,000 a year) and the modernisation of the railways would cost another similar amount. He added that he believed the cost of service should be paid by users. The alternatives were to allow the destruction of the railway system or to burden the State with enormous losses.

* * * *

### Grand Union Canal Company

The Grand Union Canal Company adopted a progressive policy ten years ago, and broadened materially its commercial activities beyond those of toll and dues collectors; the success which has attended the widened sphere of interest is shown by the fact that the company for last year was able to meet not only a charge amounting to £76,164 a year interest on debentures, but also has paid the full 6 per cent. on its preference stock, which costs £13,200 after tax, and 2 per cent., amounting to £23,755 after deduction of tax, on its capital stock. In 1944 the company rejected an offer made by the Government of a yearly rental, because the board considered it inadequate and having little regard or reward for what Mr. John Miller, the Chairman, in his statement to stockholders, termed "the most progressive company in the inland waterway industry." Under the Transport Bill the revenue for the last two years has to be taken together for the purpose of ascertaining the final payment to stockholders. For 1946, the balance carried forward is £22,450, which will help towards a final payment for 1947 on the preference and ordinary stocks. Because of the large increases in wages and the effects of the bad weather at the beginning of this year, revenue for 1947 will be substantially below that for 1946.

* * * *

### Home Railway Traffic Receipts

Home railway traffic receipts of the four main-line railway companies and the London Passenger Transport Board for the four weeks ended May 18, compare with a period in 1946 which covered Easter Monday. Nevertheless, they showed some improvement as compared with recent similar returns. The total decline for the period this year was £266,000, or only 1 per cent. The advance in coal and coke takings was £714,000,

and the fall in passenger receipts and merchandise revenue £807,000 and £173,000 respectively. For the 20 weeks of this year, compared with twelve months earlier, the total decline in revenue is now £10,806,000. Details of the traffics for the four weeks of this and last year, and the aggregate for the 20 weeks, are given in the table below:—

**FOUR WEEKS ENDED MAY 18, 1947**

| | 1947 £000 | 1946 £000 | + or − £000 | Per cent. + or − |
|---|---|---|---|---|
| Passenger ... | 14,105 | 14,912 | − 807 | − 5·4 |
| Merchandise ... | 7,937 | 8,110 | − 173 | − 2·1 |
| Coal and coke ... | 4,514 | 3,800 | + 714 | +18·8 |
| Total ... | 26,556 | 26,822 | − 266 | − 1·0 |

**AGGREGATE FOR 20 WEEKS OF THE YEAR**

| | 1947 £000 | 1946 £000 | + or − £000 | Per cent. + or − |
|---|---|---|---|---|
| Passenger ... | 64,831 | 70,036 | − 5,205 | − 7·4 |
| Merchandise ... | 33,290 | 40,894 | − 7,604 | −18·6 |
| Coal and coke ... | 20,546 | 18,543 | + 2,003 | +10·8 |
| Total ... | 118,667 | 129,473 | −10,806 | − 8·3 |

A comparison of the figures for this and last year is affected by the higher rates and charges in force in the latter period, but it will be noted that on a percentage basis the last issued details compare favourably with the total.

* * * *

## New Series of L.M.S.R. Posters

The average Briton never loses the urge, first apparent in very early youth, to find out how things are made and what it is that makes the wheels go round. At all times the railways have held the popular imagination in this respect, and for this reason, therefore, special interest attaches to a new series of posters which the L.M.S.R. has recently brought out with the object of stimulating still further public interest in the working of the railways. The object of this series, which comprises five posters the first of which is reproduced on page 594 of this issue, is to explain by means of simple photographic dissections or diagrams the purpose and working of the more familiar items of railway equipment. The poster reproduced this week shows a section through a third class passenger carriage, and the remaining posters in this series, which also we propose to publish in due course, show how the driver starts and stops the engine, what a section through an express locomotive looks like, the layout of the permanent way, and, finally, how the track is laid and maintained.

* * * *

## Mechanical Engineering Research Department

At the conference on industry and research organised by the F.B.I. last year, on which we commented in our issue of April 5, 1946, it was made clear that, although there is considerable engineering research already in progress in this country, there are certain gaps yet to be filled, and that, because of the small size of the teams of workers concerned with specific items, research tends to be confined to immediate needs. With the object of making good this deficiency in the mechanical engineering field, largest of the engineering branches, the Government, acting on the recommendations of a committee appointed by the Department of Scientific & Industrial Research, is setting up an organisation, the main object of which will be to carry out basic research in mechanical engineering science for the general benefit of industry as a whole. An analysis has enabled the main subjects of research to be broken down into seven groups, given elsewhere in this issue, and it is intended that the researches shall provide a sound foundation of scientific knowledge on which industrial development projects of the future can be based. It is hoped that eventually much of the work will be ahead of the immediate requirements of industry, and that the reputation of the new establishment will be such that other research groups and firms will turn to it for information and advice.

* * * *

## Asphaltic Track Ballast

Since 1939 the New York Central System has been experimenting with asphaltic track ballasting in places where track drainage is difficult, such as between station platforms. Locomotive drippings, sand used at starting, and other dirt accumulate to consolidate normal ballast into impervious layers, developing a muddy track. Two methods of using asphaltic ballast are under trial: (*a*) by mixing the asphalt with the whole of the ballast section; and (*b*) by applying to the ordinary ballast a thin coating of asphalt—usually about 2 in.—and then adding a thin sealing coat of sand and asphalt, sometimes with fine stone screenings also, to either (*a*) or (*b*). Method (*a*) is admittedly costly, and is used only in more important places such as over viaducts, concrete or steel structures, and at stations. It has been found that the asphaltic binder and sealing coat provide a stable yet elastic roadbed that will give under traffic and can be packed even after a considerable time; it can also be patched if cracks occur. Method (*a*) is generally used in combination with continuous lengths of welded rail, and reduced maintenance over long periods appears to be assured. Examples of both methods of track ballasting under trial at the same station are described in the note below.

* * * *

## South Bend Asphaltic Ballast Installation

South Bend Station, on the New York Central, has two fast roads between island platforms 1,200 ft. in length, which gave constant trouble for reasons just explained. It was decided, therefore, to divert all traffic to the outer platform roads and treat (1) the fast tracks between platforms by method (*a*); and (2) 429 ft. of the tracks in each direction beyond platform ends by method (*b*). New 127-lb. butt-welded rails also were laid in two 429-ft. and one 351-ft. continuous lengths, or throughout 1,209 ft. of double line. The roadbed, which was almost like concrete, was removed to a depth of 12 in. below bottom-of-sleeper level with dragline excavator and bulldozer; levelling was completed by hand and rolled with a 10-ton roller. In applying method (*a*) the asphalt and ballast mixture was laid mostly within two hours of mixing, but delays up to 20 hr. were not detrimental, provided wagon loads of the mixture were covered overnight. Nine surface drainage sumps were provided, six in the six-foot, their tops 16½ in. below tops of sleepers. The sealed surface was sloped off from 3 in. below sleeper tops, giving 13½-in. falls to each sump. In method (*b*) the ballast was relaid to 2 in. below normal ballast level, and the 2-in. asphalt coating and sealing added. A year after completion, the whole job may be said to have come up to all expectations.

* * * *

## Open Coaches for Southern Suburbs

A survey of travellers' views undertaken recently on behalf of the Southern Railway showed a preference for the open type of vehicle for suburban services, which was the opposite result to that obtained in an earlier census among long-distance passengers. The company therefore is introducing new four-coach sets composed of three open vehicles and one of the compartment type. All the stock is new, and the compartments have been widened to seat six a side. The open coaches are divided into sections, with six seats against the partitions, and the remainder arranged in groups of three and two on each side of the central aisle. An important feature is the provision of doors on both sides giving access to every block of seats. In this way there is every chance of the increased standing space of the vehicle being used to the best advantage, since passengers need no longer hesitate about passing down the car for fear of difficulty in reaching a door at their destination. An 8-coach train of the new stock seats 764 passengers, as against 680 in the older trains of compartment coaches. The ten trains completed so far are running on the Eastern Section, to Bexley Heath, the Dartford Loop, Sevenoaks, and Orpington.

* * * *

## Oil-Fired Locomotives on the G.N.R.(I.)

We publish elsewhere in this issue an account of the recent conversion to oil firing of some 4-4-2 tank locomotives, which has been carried out at the Dundalk works of the Great Northern Railway (Ireland); the conversion of other locomotives also has been put in hand. Some useful experience had been gained about ten years ago, when an experimental oil-fuel system was installed on one of the two-cylinder 4-4-0 locomotives, but as at that time there was no difficulty in obtaining coal, any large-scale conversion to oil firing was not really justified. The system now adopted comprises a large

burner located centrally at the bottom of the firebox, and designed to direct the flame upwards and outwards in all directions. The company secured the co-operation of Laidlaw, Drew & Co. Ltd., the Edinburgh firm which made notable contributions towards perfecting a combustion system for Air Commodore Whittle during his development of jet propulsion for aircraft. The Great Northern Railway locomotives very easily are converted to burn oil fuel, and if necessary, just as easily can be re-converted to burn coal. The details of the system are worthy of study as they represent a considerable advance in technical development over earlier arrangements, especially concerning design of the blower for use while steam raising and in the nicety of control, giving a slow rate of combustion when standing at stations.

* * * *

## Railway Wage Claims

REFERENCE has already been made in these columns to the claims put forward early this year by the railway trade unions for a shorter working week and improved rates of pay. Broadly, they are for the introduction of a 35-hour week for salaried staff; a 40-hour week for conciliation staff; a 44-hour week for engine drivers, firemen, and cleaners, and a 40-hour week for railway shopmen. In addition, the unions are claiming an increase of £1 a week, together with increased payments for week-end working. It will be apparent that the annual cost of meeting the whole of these claims would be extremely high—and we understand that a figure of £90 millions has been mentioned in this connection.

In considering claims of such magnitude, it is not possible to ignore the statement made by the Minister of Transport in the House of Commons on May 12 that it was probable that the pooled net revenues of the controlled railway undertakings during 1947 would amount only to about £11¼ millions, as compared with the £43¼ millions payable under the railway control agreement, a deficiency of £32 millions. This figure, he said, justifies increases in rates and charges substantially higher than those recommended by the Charges Consultative Committee in November last. The Committee then recommended that passenger fares and passenger train rates should be increased from 33⅓ to 35 per cent. over pre-war, and goods train rates from 25 to 30 per cent. over pre-war, but even these modest increases have not been imposed.

As the gap between receipts and expenditure has widened considerably since November, it is clear that, if the present increased costs are to be borne by railway users, a higher increase in railway rates and charges will be necessary. Further, if the present claims are met only to a small extent, the cost will be so large that the increase in charges will have to be so substantial that it may well affect adversely the revival of trade and industry generally. As to the claim for a shorter working week, although the circumstances under which it is put forward can readily be visualised, the Government "Economic Survey for 1947" made it quite clear that the nation cannot afford shorter hours of work unless these can be shown to increase output per man-hour, and this would be difficult in many branches of railway work.

Negotiations commenced through the medium of the agreed negotiating machinery with the unions concerned, but the fact that the Transport Bill providing for the acquisition by the Government of the railways on January 1, 1948, has been passed by the House of Commons and is now being considered in the House of Lords, has become a vital consideration in the matter, as, under its provisions, the railway companies will cease to exist on January 1, 1948. Any action they might normally take during the negotiations involves the risk of prejudicing the British Transport Commission, which becomes responsible for the operation of the railways from January next.

Doubtless it was for this reason that, instead of the final stages of the normal negotiating machinery being used, the Minister of Labour announced on May 28 that, in the light of all the circumstances, he had decided to set up a court of inquiry under the Industrial Courts Act, 1919, to inquire into the applications and to make recommendations. At the time of going to press no announcement had been made as to the constitution of the court or the date of its hearings, but we understand that a court of inquiry established under this Act can only make recommendations which are not binding on the parties concerned. Its report must be published and laid before both Houses of Parliament, where it can be debated if necessary.

It would appear, however, that the railway companies, strictly, will not really be concerned with any recommendations the court might make, and it is open to question whether they would be in a position to accept or reject them on their own initiative, as any additional cost would fall on the railway control account during 1947, and that, thereafter, the cost of any concessions would be the responsibility of the British Transport Commission if the Transport Bill reaches the statute book substantially in its present form. It should not be overlooked that Clause 15 of the Transport Bill gives the Commission the right to disclaim any agreements or variations in agreements (which would presumably include conditions of service) made since November 19, 1945, and, therefore, the position of the companies in relation to accepting any recommendations affecting wages or hours of duty will readily be appreciated.

In these circumstances, it would seem probable that the Government or the Minister of Transport ultimately will have to decide as to the acceptance or rejection of any recommendations which may be made, and in this connection we imagine that the Minister, if he so desired, could direct the railway companies in the matter, which would prevent any decision on this point being disclaimed under Clause 15 of the Bill.

* * * *

## Argentine Railway Sale Share-out

THE British Argentine Railway Council must be congratulated on the speed with which it has presented to proprietors the general scheme of arrangement for allocating the proceeds of the sale of the railways. The announcement that a panel of experts had been set up to consider the allocation among the holders of the different classes of loan and share capital of the British Argentine railway companies, was made on August 21, and that body on May 28 concluded its consideration of the proposals made by the directors. On May 29, a statement and table were issued setting out the allocations resulting from the proposals of the directors of the companies, as adjusted in the course of discussions with the panel, which are to be embodied in the general scheme of arrangement. This statement and table are given in full elsewhere in this issue.

In general, it seems likely that the proposals will meet with the approval of the various classes of security holders. Meetings of the holders of each of the various classes of loan and share capital will be necessary for the consideration and approval of the scheme, and this will necessitate convening over sixty meetings. Moreover, any distribution is contingent on the approval of the scheme by every class of stockholder in all the companies. These meetings will be called when the High Court has sanctioned the scheme. Then the purchase has to be ratified by Argentina and the purchase money paid, when the companies will proceed to pay off the debentures.

The next step, always assuming approval of the scheme, will be voluntary liquidation, leaving the liquidator the task of realising his remaining portion of assets, and completing the distribution of the proceeds. It is believed that it will be possible to distribute the major portion of the sale monies before the end of October. The estimated distributable total amounts to £155,567,660. Broadly, the scheme may be said to have met with approval in the financial columns of the daily newspapers, although *The Financial Times* has criticised taking the recognised capital of each company as the basis of compensation. That, it states, is a concept dating to 1908. Although it may have had some relationship to earning power forty years ago, to accept it at the present time as the sole criterion of earning power penalises efficient or fortunate operators, and ignores a multitude of developments in the intervening years. That newspaper also points out that the panel of experts has approved the method of dividing each company's compensation among its stockholders, but it has not been required to examine the basis on which the total compensation has been divided between the companies.

Broadly, however, the allocations for so complex a scheme are remarkably in line with the expectation of stockholders as expressed in market values of the securities just before an-

nouncement of the arrangement. Although some stockholders may feel that they are faring worse than their corresponding fellows in another company, it should be borne in mind that it is not possible strictly to compare one company with another, because of differences in capital structures and security rights. No doubt the full terms of the scheme, when available, will explain the reasons for some of the apparent discrepancies.

* * * *

## Plastics for Railway Rolling Stock

THE plastics industry has long passed the stage when its main outlet was to be found in the domestic and novelty trades. In the past few years, due largely to the stimulus provided by the needs of war, plastics have been made available in a variety of forms, each possessing certain specific physical qualities of its own, and these various forms of plastics now are widely accepted by industry as a source of basic raw materials adaptable to many branches of production. Naturally, progress in the plastics industry has proved of great value to the engineering trades, whose standards in quality are exacting, and this has been made possible only by improvements in methods of manufacture and by paying the closest attention to the particular requirements of engineers in their respective fields. Earlier criticism of brittleness has been met adequately by improvements in the materials themselves and by the introduction of plastics reinforced to provide the degrees of strength required of them.

Taken as a whole, there are a great many outlets for plastics in railway work, and this has formed the subject of an earlier article.* At the present time, however, their greatest scope would seem to lie in the interior fittings and construction of carriages and wagons. In this connection, laminated plastics, produced by impregnating sheets of paper with resin solution, present the greatest possibilities, because they can be obtained in a wide range of colours providing an attractive medium for wall treatment, are easy to clean and light in weight, and render the use of paints and varnishes unnecessary. Other forms of plastics for which a use can be found in carriage work are moulded plastics, which are suitable for electric light fittings, decorative mouldings, lavatory seats, etc., and synthetic resin coatings which can be applied with the ordinary type of spray-gun equipment. The first application of plastics to a railway refreshment car was that of the "Golden Arrow" described in our issue of May 17 last year. A fairly recent development has been a plastic in which woven high-tensile steel wire and cotton are incorporated in the material. This form of reinforced plastic was first adopted by the Southern Railway in 1944 for the construction of a passenger luggage van, and it represented the first time plastics had been used for the external construction of railway rolling stock. This van was described in *The Railway Gazette* of April 7, 1944.

Elsewhere in this issue appears a description of a standard third class passenger coach the interior of which has been fitted entirely in laminated plastic panelling designed by De La Rue Insulation Limited. Many factors affected the progress of the work on the coach, which was formally handed to the designers by one of the British main-line railway companies in March, 1946, among them being difficulties over the supply of materials, and the fact that the labour which the contractors could make available was strictly limited. Moreover, being in all probability the first railway coach to have its interior entirely finished in plastics, much of the work was of a pioneer nature calling for research and experiment on the part of the designers, and not infrequently resulting in a revision of ideas after practical experience.

Among the problems to be considered were the ability of the panelling to withstand harsh treatment, length of life, easy accessibility to the main structure of the coach to enable routine and emergency maintenance to be carried out, colour schemes, concealed fastenings, and the advantages and disadvantages of fixed and removable panels. Special attention was paid to this last point, and with good reason, for it is an unfortunate fact that the travelling public appears to consider that the transport services provide an effective means for the release of a repressed urge to loot or damage, and it is the experience of all railway companies that anything removable is liable to be removed, and that anything fixed can be considered so only after a period of testing in service. Mirrors, curtains, ash trays, electric fittings, etc., vanish into thin air as if by magic, and were it not for this fact, many details of design would have been simpler to arrange and—possibly—have been better in appearance. All window cills in compartments and toilets are cigarette-burn proof.

Several minor alterations were made to the coach structure to allow for improvements in design. It was decided to retain the usual form for the compartment ceiling, but to cover the recess in the centre so that the line of the ceiling across the carriage was unbroken, for which additional timber grounds were necessary. The central panel is of normal construction backed with hardboard. A difficulty arose, however, in the fixing of the first of the unbacked curved panels, because it was found that the timber formers to which it was attached were not at true radii, with the result that the panel eventually failed. As some kind of backing, rather more resilient than hardboard, was considered advisable, the timber formers were lined with strips of Essex board and all subsequent panels erected against them. The usual barrel vault type of ceiling in the corridor was thought to be unsatisfactory because of a bad joint between corridor and vestibule, and because the electric light wiring and compartment door runners were rather difficult to get at. To remedy this, the ceiling was re-designed, and now the corridor and vestibule ceilings run right through, and the wiring to compartment and corridor lighting is much more accessible. All that was necessary was to add a stringer running longitudinally down the centre of the corridor and to fix a few additional timber formers.

* Plastics in Railway Engineering. By T. Lovatt Williams and D. Warburton Brown. *The Railway Gazette*, March 31, 1944

* * * *

## Centenary of "The Mechanicals"

WE extend our sincere congratulations to the Institution of Mechanical Engineers on the occasion of its centenary, which is about to be celebrated. This great engineering society, one of the largest and most influential of its kind in the world, is of especial interest to readers of *The Railway Gazette* (many of whom, indeed, number themselves among its members) for it was founded by the greatest railwayman of all time, George Stephenson, in 1847. Furthermore, its origins have for their background an out-and-out railway atmosphere. The conversations during which the proposal was made to establish the distribution took place in 1846, during the trials of the Norris engines from Philadelphia, U.S.A., on the famous Lickey incline on the Birmingham & Gloucester Railway. It was particularly fortunate for the Institution to have so illustrious a founder as George Stephenson, whose name had become a household word long before 1847 and whose fame had spread all over the world.

At a meeting convened on Wednesday, October 7, 1846, in the Queen's Hotel, Birmingham, it was decided to proceed with the proposal, and a committee was elected to draw up the rules, which were duly approved on November 18. Then, on January 27, 1847, a general meeting was held for the purpose of announcing the formation of the Institution. Among the founder members were some famous names in railway and locomotive engineering, including J. F. McConnell, Charles Beyer, Richard Peacock, Henry Dübs, John Ramsbottom, and Benjamin Cubitt. In 1877 the Institution moved its headquarters from Birmingham to 19, Victoria Street, London, S.W.1, where it remained until 1899, the year in which its present building, overlooking St. James's Park, was completed.

The main objects of the Institution, namely, the encouragement of advances in engineering science and invention, have been scrupulously adhered to from the outset. At first the principal means of achieving this aim was the reading and discussion of papers at meetings; but a notable step was taken in 1879 when the Institution set up its first research programme. Since that date, research has figured very largely in its main activities, and many of its research reports have become the classical works on the subject with which they are concerned. Riveted joints, bearing friction, alloys, marine steam engines, marine oil-engines, refrigeration, wire ropes, hardness tests, cutting tools, steam nozzles, and high-duty cast irons have all formed matters for investigation in this way.

Later, the Institution began to concern itself increasingly with technical education—a manifestation which became more

clearly defined as the requirements of candidates for election became more stringent. A most significant development followed in 1913 when it initiated its own examination system; and today its academic requirements of a candidate for corporate membership are regarded as the accepted test for the theoretical training of a mechanical engineer. Seven years later it joined forces with the Board of Education in launching its scheme for the award of National Certificates in Mechanical Engineering.

A most important event which just preceded the Centenary celebrations was the amalgamation with the Institution of Automobile Engineers; the result is to give the combined Institution undisputed leadership in the whole of the engineering aspects of mechanical transport on land.

The Institution's activities are as wide as mechanical engineering itself; and it has been said with truth that the history and development of engineering in Great Britain has been largely bound up with the Institution of Mechanical Engineers. The *Proceedings* which it has published from the beginning form an unique record of technical progress, and it is good to learn that the themes of the most significant papers and discussions are being summarised in a valuable Centenary Memorial Volume which the Institution is about to make available to its members. Many of the papers it has published are classics in railway literature, and the close association with railways which has persisted throughout this hundred-year record is emphasised by the fact that no fewer than twelve of its past-presidents were railwaymen themselves, while certain others, through their work as manufacturers, were equally interested in locomotive engineering.

To celebrate so momentous an occasion, a comprehensive programme of events has been planned by the Institution. The various functions are to be held between Sunday, June 8, and Friday, June 13, beginning with a Thanksgiving Service in Westminster Abbey, and concluding with a Guildhall banquet at which the Prime Minister is expected to make a speech. Other social functions include a reception at the Science Museum, South Kensington—where certain of the collections are being re-formed into a special exhibition (to be on view till August 24) to illustrate a century's progress in mechanical engineering—and a reception by H.M. Government. Two special lectures are being arranged for delivery on the evenings of June 10 and June 12, namely, a James Clayton Lecture on "The Application of Nuclear Energy to Industrial Power Production" by Professor J. D. Cockcroft; and "Parsons, the Man and his Work," by Sir Claude Gibb, the latter being one of the series of Parsons Memorial Lectures. The mornings of June 10-13 are devoted to technical sessions at each of which three brief lectures will be given. The programme has been so arranged that during the series a complete panorama of the present position of mechanical engineering, in all its chief provinces, will have been presented, together with observations on the probable trends. The afternoons of each of these four days will be devoted to visits to various engineering works in and around London. The Institution is to be congratulated on the excellent programme which it has drawn up for its six days of celebrations, which should be enjoyed and appreciated greatly, not only by its members, but by the distinguished guests and delegates participating from other technical societies throughout the world.

## Publications Received

**Paddington to Seagood: The Story of a Model Railway.** By Gilbert Thomas. London: Chapman & Hall Limited, 37, Essex Street, W.C.2. 7½ in. × 5 in. 131 pp. Illustrated. Price 7s. 6d.—Those who escape the infection of enthusiasm for railways sometimes find it hard to understand the viewpoint of the railway devotee. The average railway enthusiast is no more adept at self-analysis than other members of the community, and so his partiality for railways remains inexplicable to the general public, particularly when it expresses itself in the construction and operation of a model railway. In "Paddington to Seagood," however, a professional author who succumbed early to the fascination of railways describes why he did so, and how he has satisfied his enthusiasm by creating a small-scale reproduction of an imaginary part of the Great Western Railway. His book, therefore, will interest many others besides those who themselves are model railway enthusiasts.

**Le Centenaire des Chemins de fer Suisses** (Centenary of the Swiss Railways). Berne, 1947: General Management, Swiss Federal Railways. 9½ in. × 6½ in. 160 pp. Fully illustrated. Paper covers. No price stated.—Railways play so wide a part in the daily life of the public that there can be few people today who do not find some aspect of their operation interesting. This souvenir booklet, commemorating the centenary of opening the Zurich-Baden Railway, has been compiled, therefore, to appeal to readers of varied tastes so that all may appreciate the significance to Switzerland of the event celebrated this year. The development of the Swiss railway system is dealt with both from the technical and the administrative aspect, and the social functions of the railways, as employers of labour and servants of the community, are the subjects of separate chapters. Rates, fares, and financial matters also receive treatment. The book is profusely illustrated, and includes a number of whole-page coloured sketches representative of railway operations and characteristic aspects of Swiss lineside scenery.

**Locomotive Running Shed Practice:** The Maintenance and Servicing of Locomotives. By Harry Webster. London: Geoffrey Cumberlege, Oxford University Press, Amen House, Warwick Square, E.C.4. 8¼ in. × 5½ in. 222 pp. Price 18s.—The author of this book has set out to provide a concise and practical guide to the many details of work at a locomotive depot which in the past frequently have had to be learnt by protracted experience. It is compiled on the lines of an encyclopædia, the sections on boiler cleaning and maintenance, engine defects and repairs, layout of workshop facilities, and so on, being arranged in alphabetical sequence. In addition, there is a full index extending over four pages. Mr. Webster has taken examples from numerous sources so as to make the book as generally representative as possible of running shed and motive-power practice. The section on track layouts at depots is illustrated with plans of typical schemes adopted by the L.M.S.R., the G.W.R., and various overseas administrations.

**Rotary Valve Engines.** By M. C. I. Hunter. London: Hutchinson's Scientific & Technical Publications, 47, Princes Gate, S.W.7. 8¼ in. × 5½ in. 216 pp. Illustrated. Price 21s.—This excellent book follows a somewhat unusual plan in technical literature. It covers rotary valve engines with great thoroughness, and with an impressive assembly of observations on every type. The reader who may imagine this book to be a treatise merely on valves for, say, automobile engines will be surprised to learn how very wide a range of applications have been considered for rotary valves—whether disc valves, cylindrical (or sleeve) valves, or conical rotary valves such as those used on the Aspin designs. The book contains a very informative section on the "Paget" locomotive, in which the author analyses with skill the starting torque (static condition of friction) and the horsepower necessary to drive the valve at speed under various conditions of pressure and cut-off. These data make a most valuable sequel to the historical article by Mr. James Clayton, published in *The Railway Gazette* on November 2, 1945. The present book also contains a remarkable tribute to Paget's brilliant and venturesome design for the type of steam distribution he required. It is shown that he was one of the real pioneers in the later development of rotary valves, for in 1908, with the exception of Mr. E. W. Lewis, he was practically alone in this field. Mr. Hunter concludes that the application of rotary valves to a steam unit is by no means easy, because of the inherent drawback of continuous pressure on the sealing arrangement. For that reason, rotary valves have scored all their principal successes in internal-combustion engines, where they are relieved of pressure between the power strokes. Mr. Hunter's survey is international; he gives due tribute to pioneering efforts in Great Britain, but also covers work done in France, Belgium, Italy, and Germany. The illustrations are clear and attractively simplified.

**British Railway Stations Illustrated.** Book I: Cornwall, Devon, and Somerset. South Merstham, Surrey: The Railway Technical Press, 185, Nutfield Road. 7¼ in. × 4¾ in. 61 pp. Paper covers. Price 3s. 4d.—This booklet is the first of a series of twelve, which will cover a total of 650 stations, and are intended to provide a historical pictorial record of railway stations throughout the country. Over fifty illustrations are reproduced in the booklet, the great majority of which were taken over twenty years ago; some are of stations since extensively reconstructed or demolished. Reference to any particular station is facilitated by the alphabetical arrangement of the illustrations; it could have been made clear to the reader why the picture reproduced on the cover of this booklet, which deals with Cornwall, Devon and Somerset, shows a station where the Southern Railway electric third-rail is in evidence.

# LETTERS TO THE EDITOR

*(The Editor is not responsible for the opinions of correspondents)*

## Railways and Public Complaints

London & North Eastern Railway,
Dorset Square,
London, N.W.1. May 31

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—How much more pleasant it is to hear a member of the public blowing the railways' trumpet than to listen to the notes on a bugle of a railway official.

Thank you, Mr. G. Richard Parkes, for your appreciative remarks about the way the L.N.E.R. deals with public queries and complaints.

Yours faithfully,
GEORGE DOW,
Press Relations Officer

## A Museum of Railway History

"Highlandman," 31, Brookland Hill,
Hampstead Garden Suburb, N.W.11. May 26

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—So far no one seems to have raised the point concerning what is to happen to the York Railway Museum under railway nationalisation. There are to be considered, also, the historic locomotives stored at Crewe, Derby, and elsewhere, and I feel that the possible fate of these locomotives and the other equally valuable historic railway material merits some consideration.

If these various railway items are to form part of the "poor bag of assets" taken over by the Government, I suggest that the time has arrived for the establishment of a public railway museum wherein may be preserved the various items which the railway companies have considered of such interest as to be worthy of preservation.

I realise that one of the difficulties is that, if the policy of preserving actual locomotives and stock is to be continued, premises of vast size will be needed in which to house the exhibits. Accordingly, I would subscribe heartily to the suggestion so often made in *The Railway Magazine* that models should be made and displayed in place of the actual items, except in rare instances. If a public railway museum were established, I feel sure that very many people would feel moved to give or bequeath suitable models, knowing that they will be both appreciated and preserved.

I feel that the establishment of such a museum is of great importance. Transport in general, and the railways in particular, have played a part in the building up of our civilisation the importance of which can never be estimated, and it would be a pity for us to disdain the steps by which the railways have reached their present highly-organised state. Nor can there be any doubt as to the popular appeal of such a museum; one has only to look in at the Science Museum any week-end for a pointer in this direction.

With regard to the very valuable nucleus of such a museum, at present housed at York, perhaps Mr. George Dow may be able to give some idea as to its fate.

Yours faithfully,
HOWARD W. LINECAR

## Roller-Bearing Equipment for Electric Stock

6, Armitage Road,
Birkby, Huddersfield. May 28

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The interesting article in your May 23 issue on the new Southern Railway lightweight electric bogies illustrates admirably the trend towards lighter traction equipment, the advantages of which no doubt will be reflected in improved performance and decreased track maintenance. In achieving these desirable ends it would appear that the latest practice in the traction field has been followed successfully, but it is a matter for comment that, in this advanced design, plain-bearing axleboxes have been retained.

As is known, the use of roller-bearing axleboxes is especially advantageous on suburban stock, since starting resistance is decreased considerably thereby, giving higher acceleration and/or decreased energy consumption. Additionally, from the operating angle, hot-boxes are eliminated, a factor which contributes materially to availability of the rolling stock.

In connection with the foregoing it may be recalled that the later L.M.S.R. Liverpool-Southport electric stock, which, like the Southern Railway, operates on a running rail return system, is roller-bearing equipped throughout and is presumably as liable to the likelihood of heavy current conditions as the new Southern Railway equipment. However, as far as the writer is aware, no trouble with the roller bearings due to such causes has in fact been experienced, although this L.M.S.R. stock has been operating for about eight years.

In such installations, under normal conditions, the return circuit for the equipment is from the motor through the motor suspension bearings and to the rail *via* the axle, so that the axlebox bearings are shunted. Attention may be called, however, to the fact that, despite the considerations underlying the selection of plain bearings for this latest equipment, certain Continental and American railways have in fact successfully fitted an axle earth brush arrangement as an added precaution against the possibility of bearing damage due to heavy current conditions. This latter information is contained in a paper on roller-bearing axlebox equipment read before the Institution of Locomotive Engineers as far back as 1934.

Yours faithfully,
R. HOWARD

## Tube Train Destination Boards

81, Morland Road,
Croydon, Surrey. May 28

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Reverting to "Commuter's" original letter in your May 9 issue, it is in fact true that a passenger arriving hastily on a platform after a train has come to rest has no visible indication in front of him of the direction of travel of the train. The list of stations on the back of the tunnel is by then concealed by the train.

In the time at his disposal, the passenger cannot be expected to search up and down the platform for an illuminated indicator; nor may it be possible in all cases—as pointed out by Mr. Brebner—to fit destination boards on both sides of each car.

But surely the solution is a simple one: a briefly-worded direction board could be mounted on the tunnel opposite each platform entrance just high enough to avoid being concealed by a train standing at the platform. For example, the words "Northbound Trains" are all that would be necessary in many cases to tell the passenger whether it would be correct for him to enter the train.

Yours faithfully,
R. B. HOUNSFIELD

[The point made in "Commuter's" letter was not that it is difficult to tell the direction in which trains are running, since this normally is shown before the platform is reached, but that doubt arises as to the destination of trains on routes with branches.—ED., *R.G.*]

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THE APPLICATION OF WELDING TO TRACKWORK.—In the course of the last twenty years, and particularly during the recent war, when the efficient maintenance of permanent way became increasingly difficult, the advantages of welding track components have become clearly recognised, and considerable progress has been made in several directions. These advances have not been achieved without failures and disappointments, but now that the initial difficulties have been overcome, welding has become a firmly-established feature of British permanent way practice, although the full extent of its possibilities is not yet widely known.

The applications of welding to trackwork may be divided into four main categories:—

(1) The reconditioning of worn points and crossings.

(2) The welding of track rails into long lengths, to reduce the number of joints.

(3) The welding of electric track components, with a consequent saving of materials.

(4) The welding of other track components, such as buffer stops and damaged rails.

Much of the work can be done *in situ* with portable equipment, although it is sometimes more convenient to assemble the materials at a suitable depot. In either case, the training of the staff for these special duties is of the greatest importance. Previous experience in track maintenance is a distinct advantage.

Through the courtesy of Mr. W. K. Wallace, Chief Civil Engineer, L.M.S.R., members of the Permanent Way Institution who visited Northampton on Saturday, May 31, were able to gain an appreciation of the problems involved in the welding of track components. A tour of the permanent way materials depot, including a visit to the welding shops, where the repair of crossings was in progress, was followed by a lecture, by Mr. N. W. Swinnerton, Chief Civil Engineer's Department, L.M.S.R. The lecture was illustrated with an excellent series of lantern slides, and covered a wide field. We hope to refer more fully to this noteworthy contribution to the important subject of welding in a subsequent issue.

# The Scrap Heap

A Press report of 1847 said that "great numbers of females are employed as navvies on the Neckar & Danube and the Prague & Dresden Railways."

* * *

### Billposting!

When the Government sets up, in a week or two, the small permanent committee for passing groups of Bills without tiresome discussion in the House, I understand that a new force of public relations officers will issue lists of the Bills, so passed, to M.Ps. They, in turn, will tell their constituents anything they are able to find out about the contents of the Bills. —*Beachcomber in the "Daily Express."*

* * *

## 100 YEARS AGO

*From* THE RAILWAY TIMES, *June 5, 1847*

**LEEDS and BRADFORD RAILWAY.—MAINTENANCE of the LINE.—The Directors will MEET at their offices, in Leeds, on WEDNESDAY, June 23rd, at noon, to receive TENDERS for the MAINTENANCE of the PERMANENT WAY and WORKS between LEEDS and BRADFORD, including the Midland Branch, altogether a length of 15 miles, from July 1st, 1847, to March 31st, 1849.**

**Specifications, printed forms of tender, and all other requisite information, may be obtained at the office of the Resident Engineer, in Leeds, on or after the 9th June.**

**The Directors do not bind themselves to accept the lowest tender.**

**By order,**
**W. E. GREENLAND, Secretary.**

**Wellington-street station, Leeds,**
**2nd June, 1847.**

* * *

### Stationmasters' Qualifications

To be stationmaster at a London main line terminus one wants so many qualities, those of a diplomat, an organiser, a welfare worker, and one who is liked by the general public and respected by his staff. In this respect London is well served.

* * *

### Tough Travelling

On a recent overnight journey from Manchester to Plymouth—which takes approximately 12 hours—we suffered the inconvenience of no sleepers, restaurant car, nor any means of refreshment. No toilet arrangements nor water were available. The compartment was extremely dirty. For all this we were asked £3 10s., with the prospect of still higher fares in the near future. The same journey during the war was much easier. Why, after two years of peace, should things be so bad? —*From a letter to the "News of the World."*

* * *

### T. & G.W. Membership 1,273,920

The Transport & General Workers' Union, on December 31, 1946, had a membership of 1,273,920. This membership, states the annual report for 1946, exceeds by 128,788 the peak membership of the war years (in March, 1943). Of the union's benefit payments of £280,702 during the year, only £6,616 was dispute benefit. The largest item was sickness benefit (£98,293). The general fund of the union had a total income of £1,808,574. The union's political fund had an income of £28,584 during the year. The main items of expenditure were:

| | |
|---|---|
| Affiliation to the Labour Party ... | £9,375 |
| Remitted to areas for local affiliations ... ... ... ... | £7,630 |
| Upkeep of constituencies ... ... | £4,289 |

Twenty-two members of the union receive grants for "expenses of upkeep of constituencies." Most of them get £200 or £250; a few get only £50. Mr. Bevin gets the highest grant—£289.

### Jet-Propelled Legislation

A new hot-air engine, developed at Eindhoven, will, it is expected, revolutionise transport in Holland.

A similar device, with the addition of an ingenious guillotine attachment, is expected to do the same for transport in Britain.

It is a singular feature of the Dutch engine, however, that it operates with a complete absence of bad smells or poisonous gases.—*From "The Glasgow Herald."*

* * *

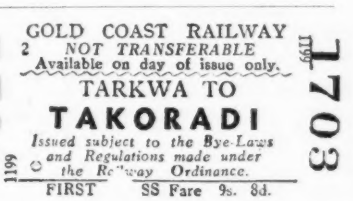
### "Railway Yard is a Thieves' Nest"

"I am afraid that this particular railway yard is a nest of thieves," said Mr. Ronald Powell at Marylebone when sentencing a shunter and a timekeeper employed by the L.M.S.R. at West End Siding, Hampstead, to four months' imprisonment for theft.

The shunter, with 20 years' service with the L.M.S.R., stole four bottles of whisky, a pair of corsets and two sets of carvers from the siding.

The timekeeper stole two bottles of whisky, six pairs of socks, and four pairs of pants from the siding.—*From "The Evening News."*

* * *




*Reproduction of a ticket issued to the Editor of our associated publication,* The Crown Colonist, *who was allowed to retain it as a memento of a recent visit to the Gold Coast, during which he travelled on the Gold Coast Railway*

* * *

Talk to the Man-in-the-Corridor, and ask him what he thinks about the nationalisation of the railways. All he wants is a seat in his train, at a reasonable price; he doesn't really mind who owns it as long as it runs to time and gets him to work.

Instead of which trains are fewer, carriages more crowded than ever, and the price of tickets soars and soars!—"*An ordinary girl's view on the Government*" *in "The Sunday Express."*

* * *

### On the Train to Mandalay

The down Mandalay train was attacked by two robbers, when it was nearing Toungoo, on Sunday last.

The guard, who was shot through the eye, succumbed to his injuries while a passenger by the name of Maung Chit Sein, who was also shot in the chest, is lying in a serious condition in Toungoo hospital.

It is reported that when the train slowed down outside the signal posts on nearing Toungoo, two robbers armed with revolvers jumped on to the chest van. But finding some passengers in the van they immediately covered them with their revolvers. When the guard, Sher Singh, on seeing the robbers, applied the vacuum brakes, he was shot through the eye by one of the robbers while the other robber shot a passenger who tried to pull the communication cord through his chest.

The robbers then decamped without their booty.—*From "New Times of Burma."*

### Those Bad Old Days

The Small Boy and his venerable Grandfather were talking about the proposed increase in railway rates, and the inquiring child had asked whether passenger fares would go up as well.

"I shouldn't wonder," said his aged relative. "What with fewer trains and higher fares, perhaps you'd better say goodbye to railway travel. You may own the railways, but you won't be able to travel on them."

"What was it like when you were young, Grandpa?" asked the child.

"Dreadful!" said the old man, shaking his head gravely. "Why, I used to go from Manchester to London on a special week-end excursion, Friday night till Tuesday afternoon, for fifteen or sixteen shillings. The ordinary single fare was only 15s. 5½d."

"Why was that, Grandpa?"

"It was in the bad, licentious old days when there were several companies all competing for passenger traffic," explained his Grandfather. "You could sometimes get a day trip to London for 10s. Why, I spent the whole of Whit Sunday, 1908, seven o'clock in the morning till eleven o'clock at night, in Paris—and the return fare from Manchester for that special day trip was 30s. A day trip from Burnley to Boulogne cost 18s. 6d."

"I suppose the railway workers were terribly oppressed and unhappy?" said the Small Boy.

"They didn't look it," said the old man. "And ordinary railway shares paid quite a useful dividend and were regarded as a thoroughly good investment by lots of working-class people."

"It must have been awful," said the Small Boy sympathetically.

"It was," admitted the old man wistfully. "Most disgraceful and disorganised."

"Of course," said the old man, "I wouldn't say the excursion trains were specially comfortable—in fact, they were generally just about as crowded as any ordinary holiday train today for which you pay three or four times as much money. But then there was a very nice arrangement called tourist tickets, for which you paid a little less than the ordinary return fare, could travel on any train you chose, and could break your journey at any place on the route."

"That sounds convenient," said the child.

"It was," agreed the old man. "And you could make it work out wonderfully well and cheaply. For instance, you could book a tourist ticket from Manchester to Weymouth and have the return half made out *via* London. Then you could go straight through to Weymouth and wander back calling at places like Dorchester, Bournemouth, the New Forest, Southampton, Winchester, and then on for a day or two in London. And the whole tourist ticket only cost a shilling or two more than the ordinary return fare (30s. 11d.) from Manchester to London."

"How wicked and anti-social!" said the impressed child.

"I'll say it was!" said the old man cordially. "And if you wanted to do yourself proud, you could get a fitted sleeper to yourself, with polished wood panels and larger than the present tin ones, from Euston to London Road for five shillings on top of the first class fare, which I think was 23s. Oh, it was just awful, my boy, in the old, unrestricted days of disorganised prodigality on Home Rails!"—*From "Miscellany" in "The Manchester Guardian."*

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## CANADA

### Crushed Rock as Ballast

Crushed rock from waste dumps at mine workings in Cobalt will be used as top dressing for 16 miles of the Ontario Northland Railway tracks during the coming summer. In making this announcement, Colonel C. E. Reynolds, Chairman of the Ontario Northland Transportation Commission, said 12 miles were treated in this manner last year. Cobalt rock has properties which make it suitable for the purpose, one of these being its freedom from dust. Experiments made previously have given satisfactory results.

The O.N.R. has accumulated approximately 300,000 tons of crushed rock at Cobalt, which is sufficient for three years' operations. The rock is used to a depth of 18 in. as a maximum, depending on the condition of the ground over which the track runs.

### C.N.R. Budget Estimates

An operating deficit of $31,000,000 was estimated for the Canadian National Railways in the present calendar year in the budget tabled in the Canadian House of Commons by the Hon. Lionel Chevrier, Minister of Transport. In 1946 the operating deficit was $7,500,000. The difference is more than accounted for by an extensive equipment and betterment programme, which will involve an outlay of $41,500,000 and will include the purchase of much new equipment; $750,000 is to be spent this year on the new office building on Dorchester Street, Montreal.

Operating revenues for 1947 will, it is estimated, be $397,467,000, as compared with $381,251,000 in 1946; operating expenses will be $380,500,000, as against $325,500,000; and the estimated net operating revenue of $21,660,000 compares with $59,500,000 last year. C.N.R. rolling stock purchases this year will include 350 ore wagons, 500 motorcar vans, 400 refrigerator vans, 150 hopper wagons, and 500 box wagons for use on American lines. Locomotive purchases will include 18 600-h.p. diesel engines, 3 electric locomotives, and 8 1,000-h.p. diesel shunters for U.S. lines; 20 1,000-h.p. diesel shunters for Canadian lines; and 6 1,000-h.p. multiple-unit coaches.

## UNITED STATES

### River Cut-off Protects Railway Bridge

For some years a big loop of the Arkansas River—a major tributary of the Mississippi—near Yancopin, about 23 miles above the confluence, has been giving trouble by scouring its banks and meandering about. Extensive protection works have been built from time to time, but by migrating downstream, the river threatened a long stretch of the Missouri Pacific Railroad near Yancopin Bridge. The danger was due largely to the fact that the river was approaching the railway at a very acute angle, in fact almost parallel with it.

Drastic measures have been taken, therefore, and a cut-off has been dredged by U.S. Army Engineers, which has eliminated the loop and shortened the course of the river by all but three miles. The most important achievement is that by directly facing the bridge, the cut-off has given the river a square approach to that structure, as well as leaving the threatening parallel reach as a backwater, which doubtless will silt up. As the river has a discharge in flood of over 800,000 cu. ft. per sec., the value of the improvement effected is great. The cut-off was completed on November 4, 1946, after only two months' work, during which two dredgers, one working from each end, removed a total of nearly 2,500,000 cu. yd. of material.

## BRAZIL

### Corumbá—Santa Cruz Railway

A further section of the Corumbá—Santa Cruz de la Sierra Railway, 300 km. in length, was opened for traffic between El Carmen and Portón, in Bolivian territory, in February. The inaugural ceremony was attended by the Bolivian and Brazilian Ministers of Transport, and various other authorities of both countries, including the Brazilian Ambassador stationed at La Paz.

### North-Western Railway Branch

Work is proceeding slowly on the construction of a branch line from Campo Grande to the Paraguay frontier at Ponta Porã, a distance of 300 km. This line was begun in 1939, and follows the course of an old roadway between the two towns.

A sequence of bridges over the many waterways in the vicinity has retarded construction, but already those over four of the rivers are nearing completion. Others are under construction over five more rivers. The bridge over the Dourado River is 133 m. long, and has three spans sufficiently high to permit navigation at the highest water levels.

With the completion of these bridges, rail transport will be possible up to the vicinity of Brejão, some 27 km. beyond Maracajú, and it is expected that the remaining distance of 116 km. to Ponta Porã, will be ready and open for traffic in 1948. Campo Grande is some 894 km. distant from the terminus of the railway at Baurú.

## INDIA

### Indian Railway Conference

Matters of interest to the travelling public were discussed at the 51st session of the Indian Railway Conference, which has been in session under the presidency of Mr. J. F. C. Reynolds, General Manager, South Indian Railway. The conference discussed the report of an *ad hoc* committee on the desirability of some degree of standardisation for the name boards and platform signs erected on railway stations.

Discussions were held on the revision of rules relating to signalling and procedure; and proposals to remove certain anomalies and to make rules in conformity with the requirements of automatic block working were considered. Approximately 75 delegates, representing 27 railways in India, attended the session.

### Return Reservations on N.W.R.

The North Western Railway has elaborated further its system of reserving seats and berths on trains serving Lahore, by making provision for first and second class passengers travelling from Lahore to Delhi to reserve accommodation for the round trip.

The arrangement came into force on May 10, and is limited for the present to eight first class and twelve second class berths, being the equivalent of one upper class bogie carriage. This carriage forms part of the composition of the up "Frontier Mail," which calls at Delhi and Lahore on its way between Bombay Central and Peshawar.

The distance by railway between Lahore and Delhi is 351 miles, and the return tickets, issued at twice single fare, are available for 12 days. The facility has been much appreciated by the public, and it is likely that in the near future the railway will have to allot a larger quota of accommodation for return reservations from Delhi to Lahore.

## SOUTH AFRICA

### Cattle Traffic During Drought

The recent severe drought necessitated the immediate transport of 800,000 tons of cereals to inland centres and to native territories.

Thousands of wagons had to be used to convey stock from drought-stricken areas to better grazing. On one day in March, the total number of cattle wagons requisitioned in the Union for this purpose was 1,365, and on April 18, when transport of cattle in the southern Free State and in the northern Cape was at its peak, the demand for wagons rose to 2,575.

### Rising Volume of Goods

During the war an average of 106,000 tons of chrome ore and manganese were transported annually to the coast for shipment. In the year ended March 31, 1947, the railways transported 640,000 tons of these ores. Petrol transported by rail has risen from 13,000,000 gal. a month in 1939 to 17,250,000 gal. a month today. Coal transport has increased from 14,000,000 tons a year before the war to more than 20,000,000 tons at the present time.

## FRENCH WEST AFRICA

### Equipment Shortages

Reports published by the administrations of the railways in French West Africa give an account of the difficulties encountered through wartime depletion of rolling stock and personnel. During the war, the railways had to carry on with rolling stock which became more and more inadequate, partly because of the wear and tear due to continuous service.

As soon as relations with Metropolitan France and other countries were re-established, the administrations placed important orders to overcome the worst deficiencies, but, in consequence of so many other priority claims, only a few of those orders have materialised so far. On the other hand, a number of locomotives, coaches, and wagons has had to be taken out of service, and other vehicles had to be withdrawn temporarily for overhaul.

The staff position is affected by the posting of personnel to Metropolitan France, and by a general depletion of suitable railway staff during the war. In spite of all these difficulties, the railways concerned, in 1945, worked a passenger-mileage exceeding that of 1938 by 25 per cent., though the ton-mileage in 1945 fell short of the 1938 figure by about 15 per cent. Passenger traffic has shown signs of increasing on the Dakar—Niger and Abidjan—Niger lines.

# Oil-Fired Locomotives on the G.N.R.(I.)

*Description of the system devised for the easy conversion of existing coal-fired locomotives*

DURING 1936-7 the Great Northern Railway (Ireland) made a successful experiment in the substitution of fuel oil for coal, using a 4-4-0 two-cylinder locomotive which, in its converted state, worked main-line express trains between Dublin and Belfast. Because adequate supplies of coal were available at that time, however, and the cost of fuel oil was relatively high, the locomotive subsequently was converted back to coal firing; but the experience thus gained was sufficient to prove that the system adopted would be satisfactory should it ever be necessary to carry out such conversions. The recent serious situation concerning coal supplies made it imperative to minimise coal consumption, so the company decided on a programme of conversions to oil firing.

In this instance, the oil-burning equipment has been fitted to the 4-4-2 tank engines of class "T2," of which the G.N.R.(I.) possesses 25. The first locomotive was converted in September, 1946, and four are now in service; work on further conversions is in hand. With the exception of a decrease in the length of brick arch, and the covering of the base and about 15 in. of the firebox sides with firebrick, the conversions were made without any structural alterations to boiler, firebox, or smokebox. A vertical burner is used, and the system adopted is that developed by Laidlaw, Drew & Co. Ltd., of Edinburgh. The objects of this particular layout are:—

(1) To achieve a more favourable rate of fuel-oil consumption, in comparison with the coal consumption for a given service.

(2) To eliminate local heating of firebox and tubeplate, while reducing firebox brickwork to a minimum, and at the same time avoiding the deposition of unburnt oil in the boiler tubes (with the consequent necessity of removing it by sandblasting).

(3) To give controlled steam raising, so as to reduce boiler stresses by slow heating and even flame distribution.

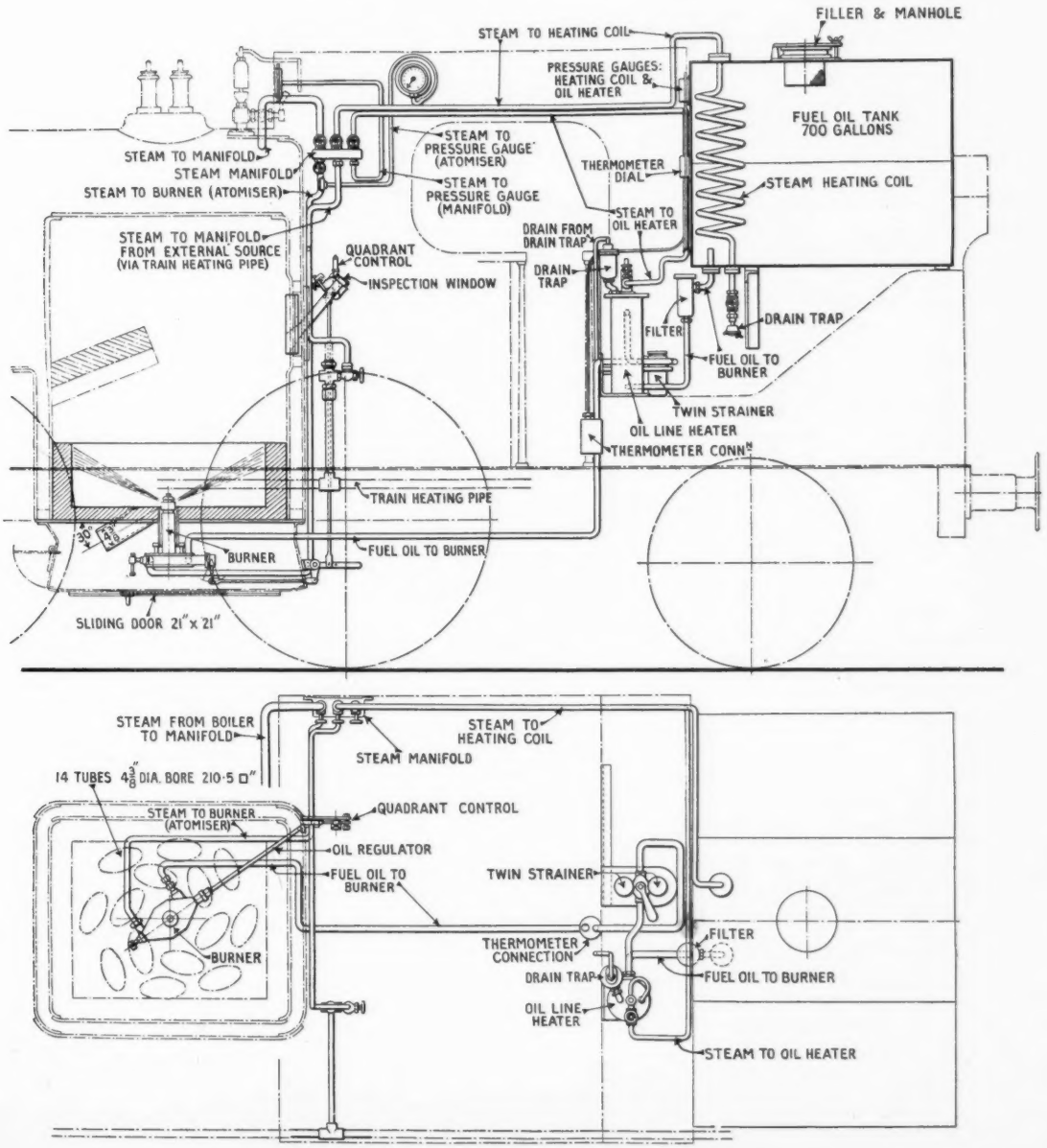



*Fig. 1—Diagram and plan showing arrangement of the oil-burning apparatus*

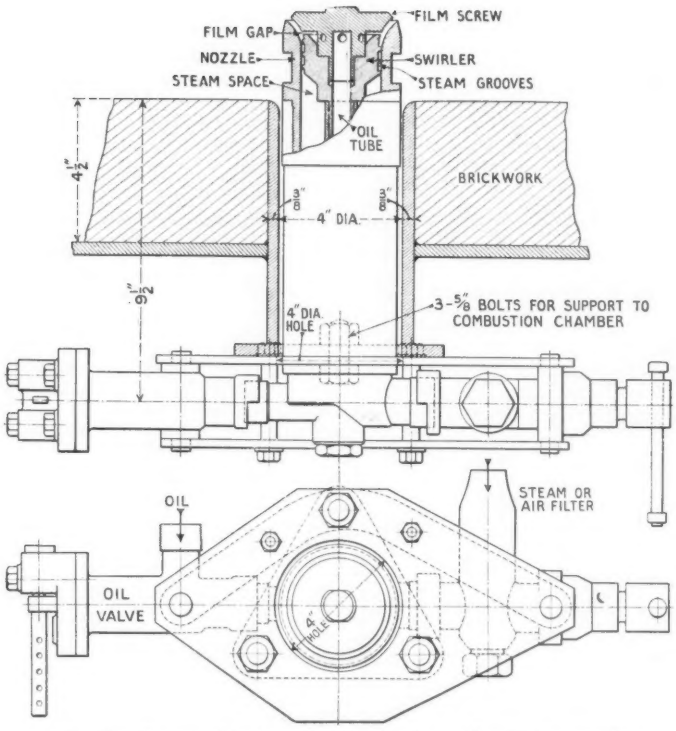



*Fig. 2—Burner showing oil-control valve and atomiser nozzle*

(4) To obtain a slow enough rate of combustion—without smell—so that steam pressure could be lost when standing, and to enable the burner to accomplish this without using the blower, which entails loss of steam (many oil-burning systems have the blower coupled to the oil control).

(5) To give a range of flame control to cover all normal train working, without having to vary atomising steam pressure—to obtain, in fact, single-point combustion control without interlocking mechanism.

(6) To eliminate all damper or secondary air control by the fireman, by providing a smokebox and combustion chamber base design such that, over the working range of the locomotive, any quantity of steam leaving the blast pipe will be sufficient to induce enough combustion air to make steam only slightly in excess of engine demand.

(7) An arrangement permitting a rapid change to and from solid-fuel firing.

### Practical Features

Two important practical features of the system are, first, that the firedoor can be opened when the flame is lit, and the normal tube blower can be worked without extinguishing the flame; and, second, the system works silently, so that noise in stations is eliminated.

Fig. 1 shows the arrangement of the system on the 4-4-2 tank engines; the method of application is made possible only by the particular type of burner employed. The burner nozzle is designed to produce a flame of predetermined shape—a plate-shaped flame having an included angle of 120 deg. A steel plate, ½ in. thick and suitably stiffened, forms the base of the combustion chamber, and is attached to the bottom of the firebox by the studs which also carry the ashpan. Combustion air is introduced through two rows of 4⅛ in. diameter tubes, arranged circumferentially, and welded into the baseplate to make an angle of 30 deg. with it. Altogether, there are fourteen such tubes, giving a total cross-sectional area of 210½ sq. in. for the admission of air for combustion. The base of the combustion chamber is covered with firebrick which is extended far enough up the firebox sides to prevent direct impingement of the flame on the water legs. The burner, pointing vertically upwards, is disposed centrally in the base of the firebox.

The existing ashpan has a front damper door only, and is retained. The door is used in the full-open position only when working, and is closed when the burner is shut off, thereby avoiding sudden cooling of the firebox and brickwork. A sliding door is provided in the bottom of the ashpan, for the removal of the burner. By means of a quick-release device the burner proper can be detached and removed in one minute. Fig. 2 shows this device; also the oil control valve and atomiser nozzle. Details of the valve are shown in Fig. 3.

Referring to Fig. 1, steam for all purposes is taken from a manifold, which receives steam from the whistle stand when the engine is in steam or through a connection which can be coupled to the train steam-heating pipe when the engine is cold. (The steam pipe can be coupled to another engine in steam, when required for lighting-up purposes). In addition to the normal blower used when the engine is in steam, a blower connection (with an external cock) to the same blower ring is provided on the left-hand side, also taking steam from the train steam-heating pipe.

Connections from the steam manifold lead to: (i) the heating coil in the fuel tank; (ii) the oil line heater; (iii) the pressure gauge; and (iv) the burner. The steam passing to the burner is not superheated, but is taken from the highest point of the steam dome, to prevent water entering the pipes as a result of surging. The steam

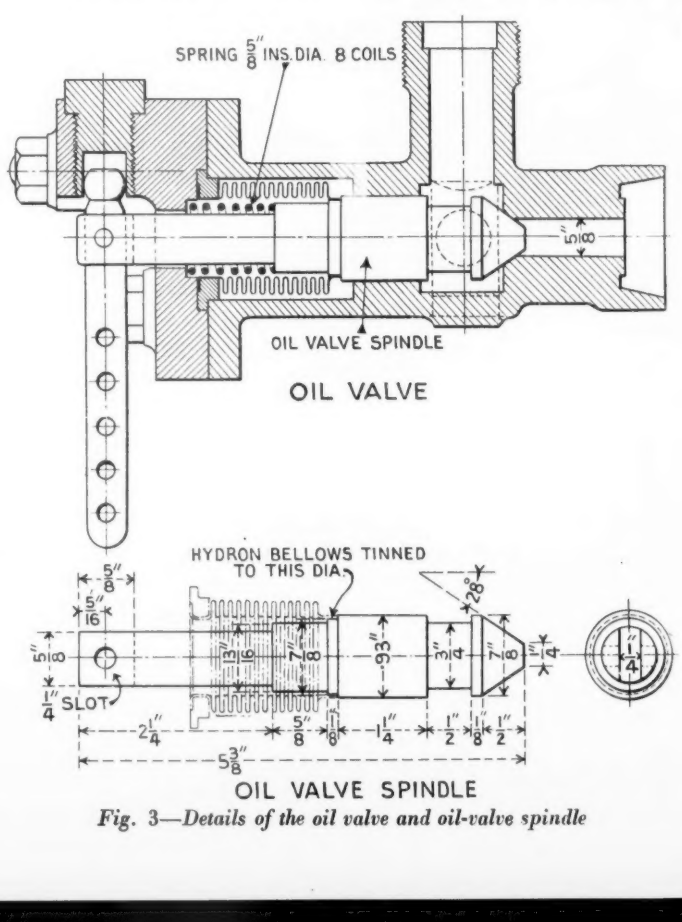



*Fig. 3—Details of the oil valve and oil-valve spindle*

pipe has a control valve and a burner steam-pressure gauge.

Oil flows by gravity from a 700 gal. tank in the bunker, warmed by a copper steam-heating coil. It passes through a primary filter to the oil line heater, which is fitted with a steam coil and thermostatic valve controlling the heating-steam exhaust temperature, so as to maintain the correct oil temperature. After leaving this heater the oil passes to a twin strainer. If either of these twin elements becomes blocked, the engine can be worked on the other, until the blocked element can be cleaned. Interposed in the pipe line between the twin strainer and the burner is a connection for a thermometer which shows the temperature of the oil reaching the burner. Using steam from an external source, the burner is lighted by oily waste. Ignition is instantaneous, and steam can be raised in the minimum time consistent with avoidance of undue stresses in the boiler.

The consumption of oil fuel is about 4½ gal. per mile; with the present poor-quality coal, the consumption for tank engines working similar services is from 65 to 75 lb. per mile.

The general dimensions and weights of the converted locomotives are shown in Fig. 4.

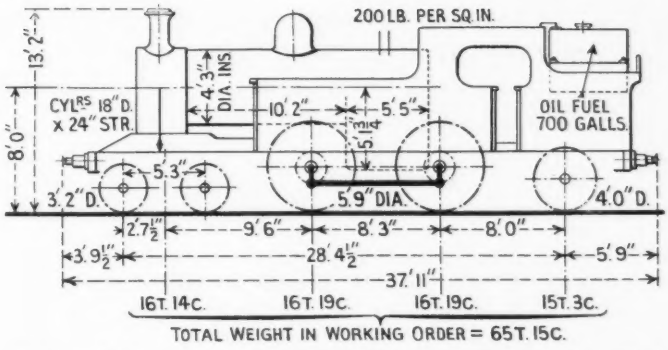



*Fig. 4—Principal dimensions and weights of the converted locomotive*

These locomotives are now provided with 16-element superheaters. The heating surface is thus made up as follows:—111 fire tubes, 1¾ in. outside diameter, plus 16 superheater flues, 5¼ in. outside diameter, 757 sq. ft.; firebox, 106 sq. ft.; total, 863 sq. ft. The elements are 1½ in. outside diameter, and the superheating surface is 193 sq. ft., so that the combined heating surface is 1,056 sq. ft. The firebox is 4 ft. 7 in. wide (the gauge being 5 ft. 3 in.) and the grate area is 18·3 sq. ft. With a tractive effort of 20,750 lb. at 85 per cent. boiler pressure, the ratio of adhesion is 3·66. The oil-fuel apparatus does not affect the axle loadings; and the water capacity remains unchanged at 1,700 gal.

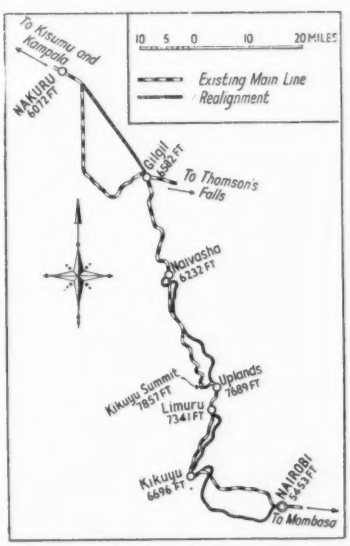
# Main-Line Realignment in Kenya

*Plans approved for new location between Nairobi and Nakuru after opposition from landowners*

REFERENCE was made in the Overseas pages of our issue of March 8, 1946, to the project brought forward in 1938 for regrading the main line of the Kenya & Uganda Railways between Nairobi and Nakuru. One section of this work had been begun before the war. Permission to proceed with the remainder of the project was sought in the Kenya Legislative Council by the General Manager of the K.U.R. & H. in August last year. That portion of the regrading between Gilgil and Nakuru involves a shortening of the line by 13½ miles, to effect which the existing line would have to be moved some 12 miles from its present alignment, with the abandonment of two stations. Considerable opposition, therefore, was brought against the proposal by the landowners affected.

The Government decided to appoint a committee to report "whether it is desirable on economic grounds and in the public interest that the proposed regrading and relaying in 80-lb. material of the main line should be carried out." The committee consisted of four members of the Legislative Council, with the Financial Secretary as Chairman; the Economic Adviser to the Kenya Government; and the Consulting Engineer to the Development & Reconstruction Authority of Kenya. Meetings were held on various dates during October, November, and December, 1946, and the committee presented its report to the Legislative Council in January this year.

The committee divided the project into three parts: (1) the section between Nairobi and Uplands; (2) that between Uplands and Naivasha; and (3) the section between Naivasha and Nakuru. With regard to (1), the new alignment takes the main line out of Nairobi to the south, so that it will no longer pass through the centre of the town, and as no objections were brought to the notice of the committee, it was assumed that the scheme had public approval. The second part, the realignment between Uplands and Naivasha, had received the approval of Council before the war, and the efforts of the committee, therefore, were concentrated on that portion of the realignment between Naivasha and Nakuru, particularly the shortening of the line between Gilgil and Nakuru.




*Nairobi to Nakuru section, showing altitudes of present line*

During the sittings of the committee, considerable criticism was brought to bear by counsel for the landowners on the method of calculation adopted by the K.U.R. The committee appreciated that the railway authorities, in presenting their figures, were anxious to simplify the argument "to an extent to which it could be capable of a ready understanding by readers who could not be expected to have more than the most rudimentary knowledge of the principles involved." It was realised, also, that when the figures were compiled, it was not expected "that they would be subjected to the fierce light of a critical inquiry of this nature." The committee felt, however, that some of the objections were justified, but the result, based on recalculations made by the committee, did not differ materially from that put forward by the Railway Administration.

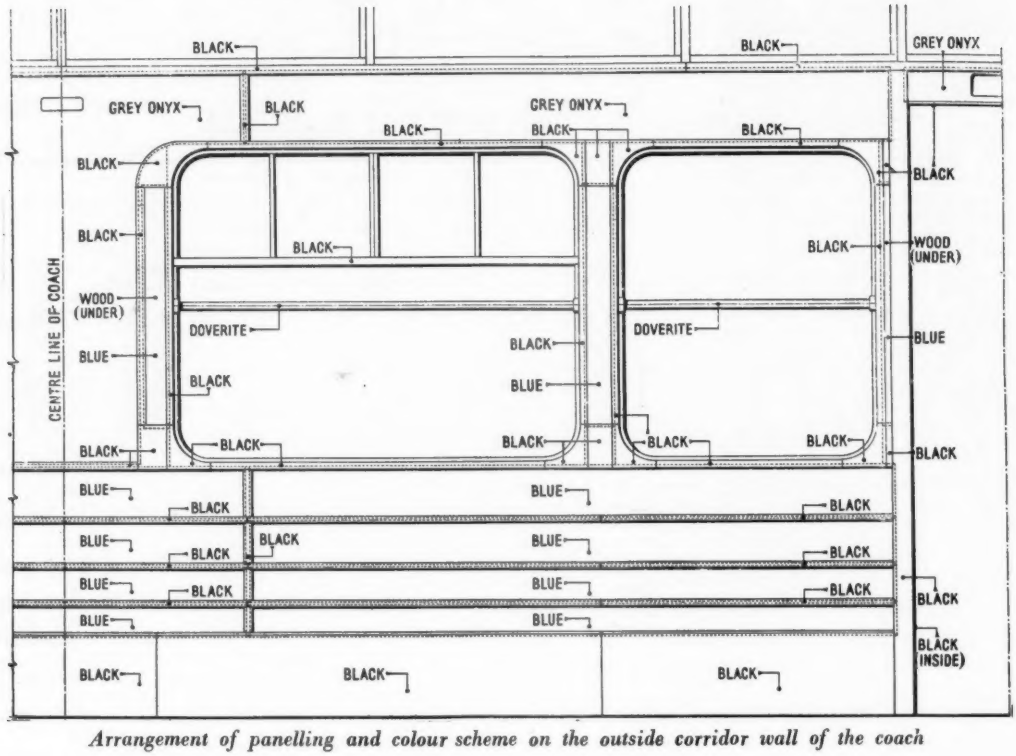
### Conclusion Reached

The committee gave considerable thought to the effect on agricultural production, and on the public interest, of the movement of the railway and the abandonment of certain stations—points which were pressed strongly by counsel on behalf of the interests concerned. The conclusion was reached that, provided certain roads were constructed and adequate telephone, telegraphic, and postal facilities provided, the adverse effect on agricultural production of moving the line would be unlikely to be of sufficient magnitude to weigh against the saving which would result from the construction of the cut-off.

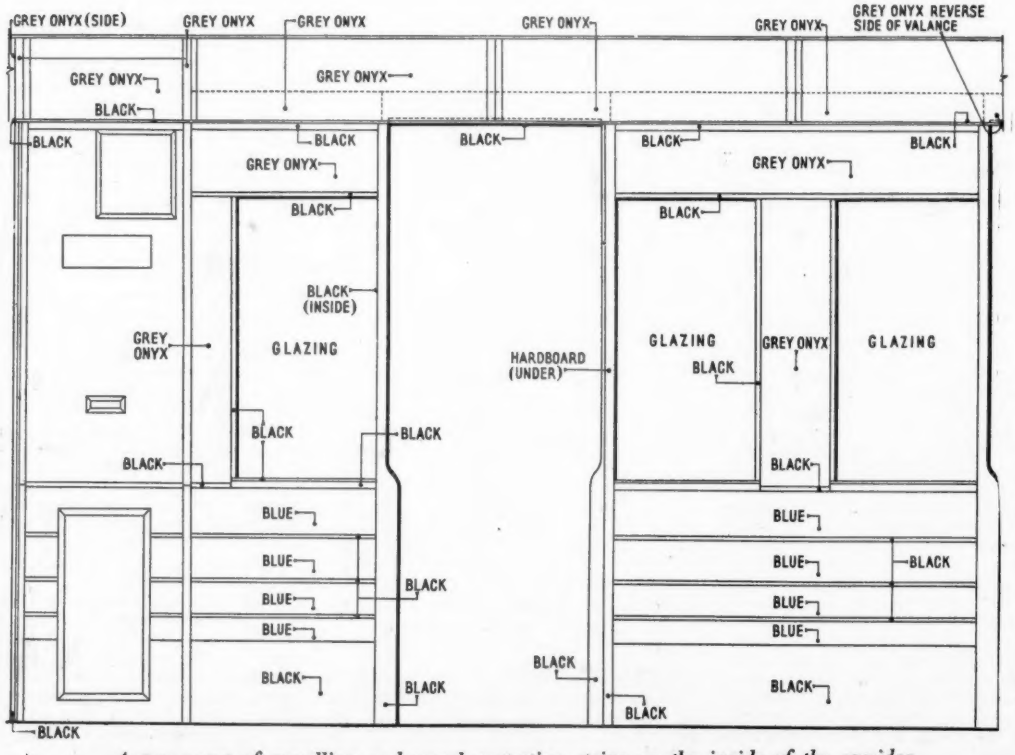
The committee found the proposal desirable, both on economic grounds and in the public interest. The cost of providing the additional roads, £38,000, has been added to the railway costs of the whole project. The committee's report was accepted by the Legislative Council, and the project now has been approved. Work was put in hand immediately, and will be complete within about two years' time.

WEST AFRICAN COMMUNICATIONS.—An Anglo-French communications conference held recently in Dakar adopted resolutions on the development of road, rail, telephone, telegraph, and radio links between British and French territories in West Africa, with a view to furthering commercial relations and the work of fighting the scourges of nature. The resolutions have been submitted for the approval of the respective Governments.

# Plastic Interior for a Standard Passenger Railway Coach




*Arrangement of panelling and colour scheme on the outside corridor wall of the coach*




*Arrangement of panelling and panel protection strips on the inside of the corridor*

# Plastic Interior for a Standard Passenger Railway Coach

*Details of the design and construction of the first railway coach to be fitted entirely in laminated plastic panelling*

IN March, 1946, one of the British main-line railway companies placed a coach ready for decoration at the disposal of De La Rue Insulation Limited, which firm was given a free hand to prepare and carry out its own scheme of decoration in plastics.

The general contractors, Hill, Norman & Beard Plastics Limited, were responsible for the fabrication of the materials and the panelling, etc., of the first compartment, together with the adjacent toilet, vestibule, and the beginning of the corridor.

Many factors affected in varying degree the progress of the work on the coach—probably the first to have the whole of its interior panelled in laminated plastic—and among these were the difficulties encountered over the supply of materials and the fact that the labour which the contractors could make available was strictly limited. The work being in the nature of an experiment, there was need for research into the best constructional methods, and particular requirements had to be met, such as resistance to harsh treatment, length of life, and accessibility to the main frame of the coach.

### General Panelling Principle

The principal material used for the interior is a paper-base urea-impregnated lamination made by the De La Rue company under the name of Traffolyte. Two colours are used, light turquoise blue and a light broken grey or grey onyx, this colour scheme being dictated to some extent by availability of material. The grey onyx has the advantage of any material with a broken surface which has to undergo a good deal of trimming on site, namely, it does not show every little mark made on it. The general panelling principle decided on for the coach was $\frac{1}{16}$ in. Traffolyte bonded with a casein glue to $\frac{3}{16}$ in. hardboard.

For skirtings, door and window trim, luggage protection strips, etc., the plastic known as Delaron was used. This is a paper-base phenol-impregnated lamination having a black polished surface. Both Traffolyte and Delaron are hard wearing and resistant to scratching, and they have an additional advantage when used for ash trays, window cills, etc., in that they can be made proof from cigarette burns.

The essential difference between the two materials, apart from composition and colour, is that a cross-section of Delaron reveals the same colour all through, whereas a Traffolyte cross-section reveals the top lamination first, then a thin white line, and, finally, the brown laminated core of the material. It was intended at first to finish all the exposed Traffolyte edges in black paint, and this actually was done in the first compartment of the coach, but on further consideration this was felt to be unnecessary because the edge of the material in its untouched state is by no means unpleasing to the eye.

At certain places, such as the bottom edges of the luggage rail fascia strips and window-head panels, the communication pulls, and the ventilation holes in the ceiling panels, the full $\frac{1}{4}$ in. thickness of Traffolyte and backing is exposed. In the last-mentioned case, the hardboard backing was painted black, but in all other cases the edging is exposed to possible damage or deterioration as well as to view, and accordingly the backing has been made of black Delaron, which gives a pleasing edge treatment.

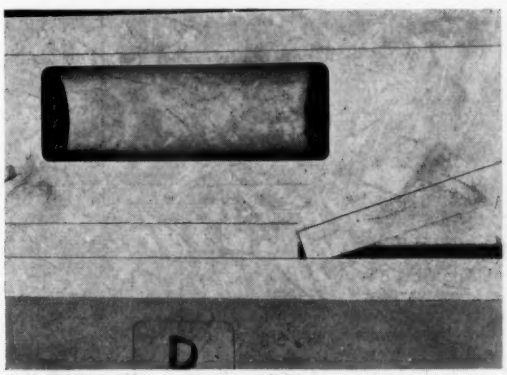
Throughout the coach, all exposed corners have been eased gently with a scraper. In this connection, it is of interest to note that both Traffolyte and Delaron can be machined, sawn, drilled, planed, etc., with ordinary types of woodworking tools, although they require to be sharpened more often than when using wood. Parker Kalon self-tapping screws also have been used extensively. In the case of removable panels, the cover mouldings have been screwed, from the face through to the timber grounds, with wood screws painted black to make them as unobtrusive as possible. Elsewhere, notably in the Delaron skirtings, the screws have been countersunk and covered with plugs of the same material. For the bulk of the panelling, which is not removable, a method has been used which completely conceals all screws.

*Interior of compartment looking towards corridor*

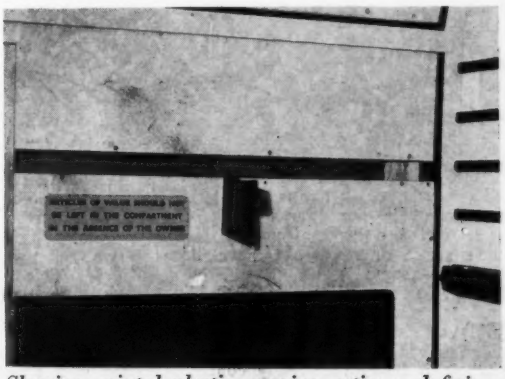
### Minimum Removable Fittings

To discourage vandalism, removable panels and fittings have been reduced to a minimum, but frequently cases occur when they are essential for maintenance purposes. For example, panels on the plumbing walls of the toilets must be removable, window surrounds and cills may require detaching to replace the glazing, bottom panels and door skirtings must be removable to replace rubber stops and recover small items dropped by passengers, number rails in compartments must allow access to heater controls, and mirrors must be detachable to allow replacement.

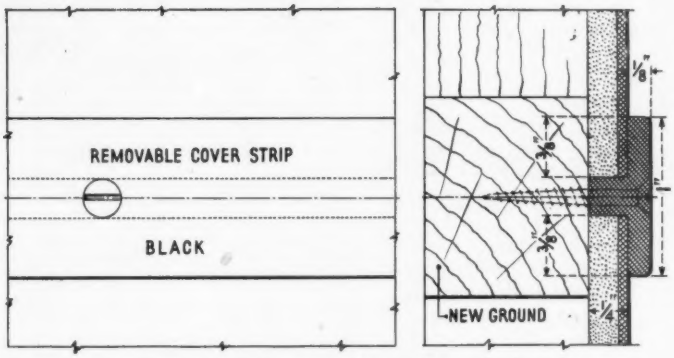
As a departure from the standard type of transfers, labels have been reproduced in print on Traffolyte and re-designed and re-cast, bearing in mind that engraved letters soon would be filled with dirt.



*Applying screw-covering fillets over joint between machined cover moulding and panel*



*Showing printed plastic warning notice and fixing lug for luggage rack*




*Cover moulding for removable wall panels in toilet*

Various types of lettering have been used, and one example is shown in the notice reproduced in the illustration at the bottom of page 589.

There are two designs of window cill; that in the first compartment is curved in section, and the remainder are of the simple flat type. It was intended originally, after a tendency for the plastic to fail when bent had been overcome, to fix curved cills in all parts of the coach, but a shortage of material prevented this. The curtain material was woven to De La Rue design in a mixture of spun Nylon and wool, and the blind material is a mercerised Egyptian cotton, dyed dark blue, and impregnated with a plastic solution to proof it against moisture.

*Timber formers are lined with hardboard to receive the curved panels*

### Treatment of Fittings

Extensive investigation was undertaken to find a really satisfactory treatment for the standard fittings. The treatment finally decided on was the Doverite process, of which the L.P.T.B. has had experience, and examples of this are found in the safety handrails across the corridor windows, and in the door handles, etc. Items not suited to this treatment by reason of their shape or small size have been enamelled the same colour.

The rail for concealing the bar holding the rear edge of the luggage nets is an assembly consisting of a length of black extruded plastic glued to a timber backing. The whole is held in place by concealed screws through the wood. Standard extruded aluminium luggage rail is used, with a blue Traffolyte fascia, and the rails are painted black to make them inconspicuous. The netting has been dyed grey and the wall protectors behind the nets consist of strips of black Delaron.

A problem arising in connection with the number rails was to make them detachable and at the same time avoid showing the fixing screws. This was solved by using recessed number plates which only have to be raised by a finger to expose the screws holding the entire rail. The apertures for the communication chain pulls were formed in the panels themselves during construction. The curved backs are of $\frac{1}{16}$ in. Traffolyte bent to a radius at 150° C. and with the "arms" left fairly wide open so that the panels can be pushed into place with a little squeezing and held there by their own tension.

The lighting in all compartments, toilets, and vestibules is fluorescent, but standard lighting has been retained in the corridor. Three types of fittings are used: the compartment and vestibule fittings consist of a simple metal frame cellulosed grey, with Perspex hood partially sandblasted; the toilet fittings are basically the same, but with the end caps reduced; the corridor fittings consist of two Perspex hoods sandblasted all over, with a metal frame and base cellulosed grey, and standard bulbs.

The usual ceiling form of the compartment has been maintained, but the recess in the centre has been covered so that the line of the ceiling across the carriage is unbroken; to achieve this, additional timber grounds were required. The centre panel is of standard construction with $\frac{1}{16}$ in. Traffolyte on $\frac{3}{16}$ in. hardboard held in position by machined mouldings.

When it came to erecting the curved Traffolyte panels, experience showed that some form of backing was necessary, and that the hardboard used for the flat panels was not sufficiently resilient. A satisfactory solution was found in the use of Essex board. This material could not be obtained in sufficient quantities, however, for complete backing in more than one compartment, and so a compromise was reached whereby the timber formers were lined with strips of Essex board and the remainder of the curved ceiling panels erected against them.

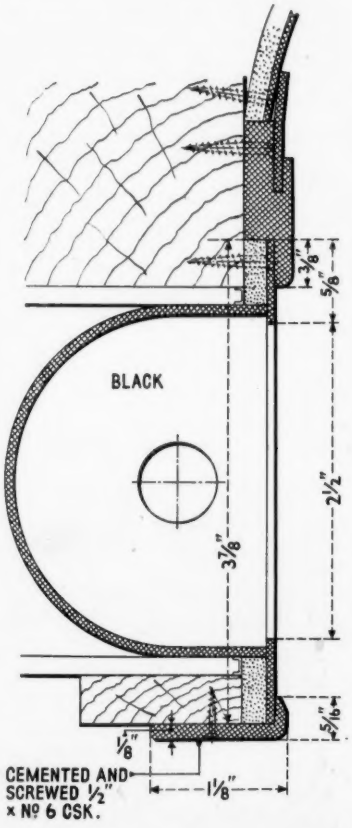
Most of the wall panels in the compartments are of the fixed type, and standard cover moulding treatment has been applied; scarcely a screw is to be seen.

The problem with the windows was to provide a satisfactory treatment from two viewpoints, appearance, and accessibility to the glazing, and after a number of assemblies had been tried out, the final result was a black Delaron machined section glued to a timber base. This assembly is screwed into the timber framework through the side in such a way that the black screw heads are invisible except on close scrutiny. The jambs also have the task of holding the side panels in position. The window-head panel is held in place by lengths of black Delaron angle glued to the panel and held to the timber framework by screws; these are accessible from below.

### Design of Corridor Ceiling

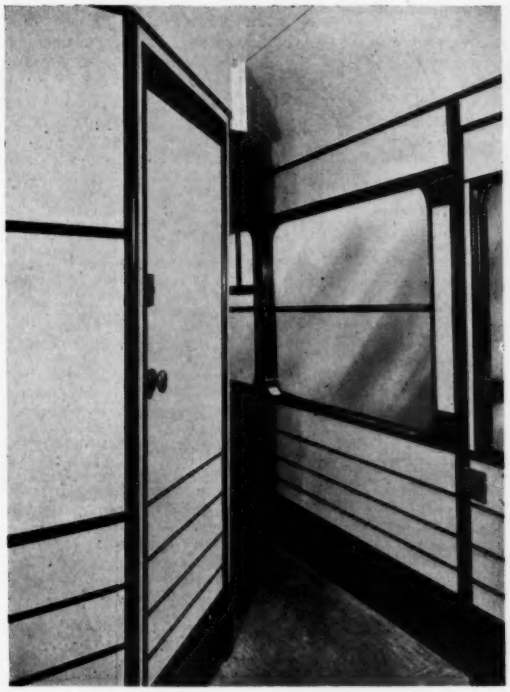
A new design of corridor ceiling has been evolved in which the corridor and vestibule ceilings now run straight through, and, as a result, the electric wiring to compartment and corridor is more accessible than formerly. To achieve this, timber formers had to be constructed to the new shape, and it was necessary, also, to add a stringer along the centre of the corridor.

Special consideration was given to the possibility of the wall panels below window cill level being damaged by the careless handling of luggage, and it was decided to incorporate strips of black Delaron to protect the panels on both sides of the corridor, as well as in the vestibule. These strips are run straight through with black-

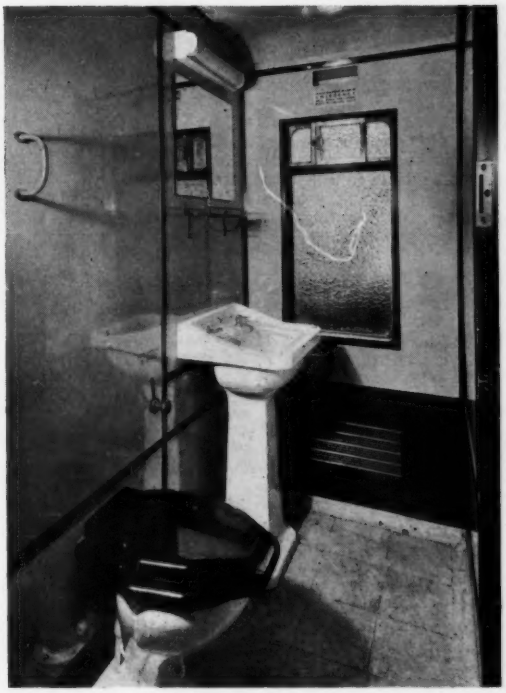



*Section through emergency-chain aperture over body doors, and springing of curved ceiling panel*

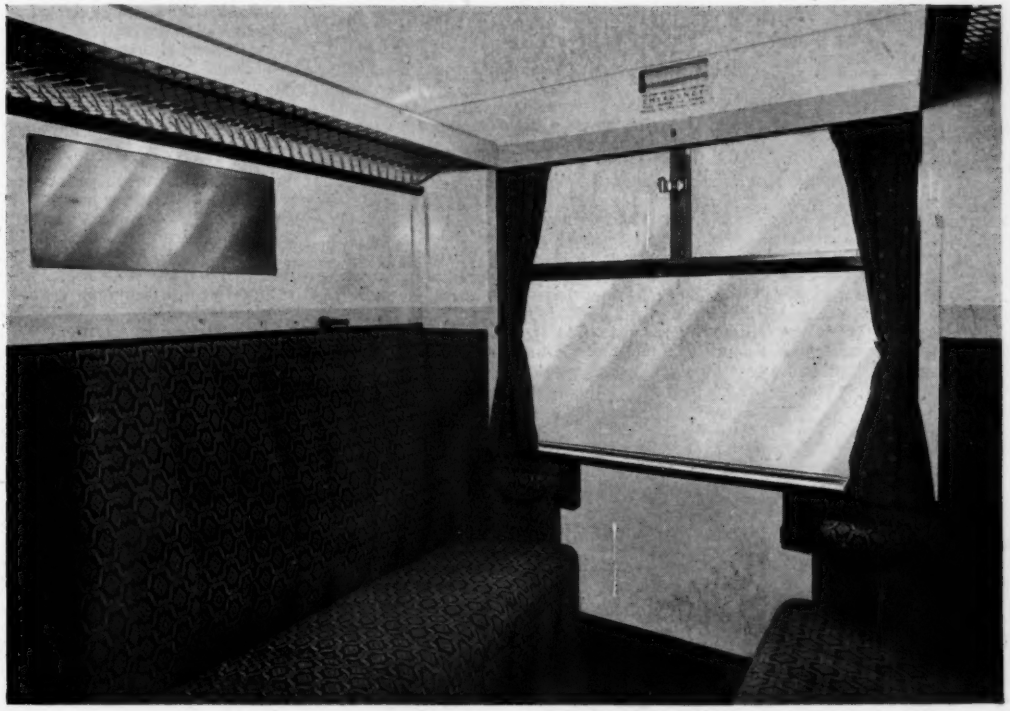
# Plastic Interior for a Standard Passenger Railway Coach



*Showing corridor panelling*



*Plastic toilet fittings*



*Interior of compartment fitted entirely in laminated plastic panelling*

headed screws, countersunk and concealed by Delaron plugs.

Details of the compartment window treatment can be seen in the accompanying illustration. A fairly straightforward method was employed, with no special attempt made to conceal the screws, because it was considered that, in general, the corridor and vestibules did not call for the same refinement in detail as the compartments of the coach.

The body doors have been veneered with $\frac{1}{16}$ in. Traffolyte, and a feature of some interest is the black plastic half-cylinder used for the edges over which the window straps run. The possibility of making the window straps themselves in polyvinyl-chloride is being considered.

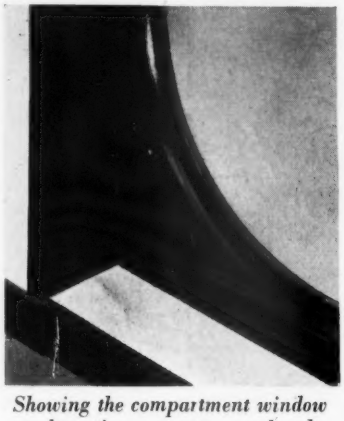
### Toilet Panels

The arrangement of the panelling in the toilets required some thought. The ceiling has been taken through just under the water tank, the curved panel being backed on the flat portion only, and the hardboard backing material actually extends to the outer wall, where it is held by the curvature of the roof members, thus giving an even base against which the curved Traffolyte panel can maintain its shape. All curved ceiling panels were pushed into position cold.

It was essential that the panels on the plumbing wall should be removable, and this was achieved by screwing the cover mouldings straight through with black-headed screws. It is a simple matter to take off any of these panels without risk of damage except through carelessness. All other panels are fixed, and the screws holding them concealed in the normal way. The toilets are carried out entirely in turquoise blue, and the lavatory seats are in moulded plastic material.

The designer of this new plastic coach interior was Mr. S. P. Jordan, A.R.I.B.A., and Mr. H. H. Murray, P.A.S.I., was the Consultant Architect. Mr. D. Ochert and Mr. W. J. Hardman were Assistants to Mr. Jordan.

During the entire job, the closest liaison was maintained between the designers and the Chief Mechanical Engineer of the railway company concerned.



*Showing the compartment window condensation groove and the cigarette-proof cill*

### Principal Sub-Contractors

A list of the principal sub-contractors for work in connection with the new coach is given below:—

Art Pavements & Decorations Limited: Supplying and fixing tiles in toilets.
British Thomson-Houston Co. Ltd.: Complete fluorescent lighting fittings for compartments, vestibules, and toilets.
British Domolac Co. Ltd.: Supplying enamel to De La Rue specification for stove enamelling by Brookland Plating Company.
Brookland Plating Company: Stove enamelling various standard fittings.
Bushing Co. Ltd.: Black laminated tubing.
Dover Co. Ltd.: Doverite treatment of hand rails, door handles, etc.
Alfred Goslett & Co. Ltd.: Black plastic lavatory seats and covers moulded by De La Rue Plastics Limited.
John Holdsworth & Co., Ltd.: Upholstery material.
Hovenden & Sons Ltd.: Mirrors for compartments.
Morton Sundour Fabrics Limited: Weaving curtain material in mixture of spun Nylon and wool, supplying casement material for curtain lining, and P.V.C. impregnated mercerised Egyptian cotton for blinds.
Wm. O'Hanlon & Co. Ltd.: Making up curtain loops to design by De La Rue and blinds to standard design.
F. H. Pride Limited: Complete light fittings for corridor.
Standfast Dyers Limited: Dyeing standard luggage nets grey.
Tayside Floorcloth Co. Ltd.: Blue linoleum.
Geo. Tucker Eyelet Co. Ltd.: Plastic eyelets for curtain loops.
Twyfords Limited: Railway hoppers and lavatory basins.

## Storage of Coal at Layerthorpe Station, York

*Enterprise of the Derwent Valley Light Railway*

A SMALL railway company has shown considerable enterprise in catering for the requirements of merchants at a busy coal depot. The depot is at Layerthorpe Station, York, on the Derwent Valley Light Railway, one of the small undertakings not included in the nationalisation scheme, but whose directors, having in mind the circumstances likely to arise in the future, are now considering the advisability of applying for inclusion.

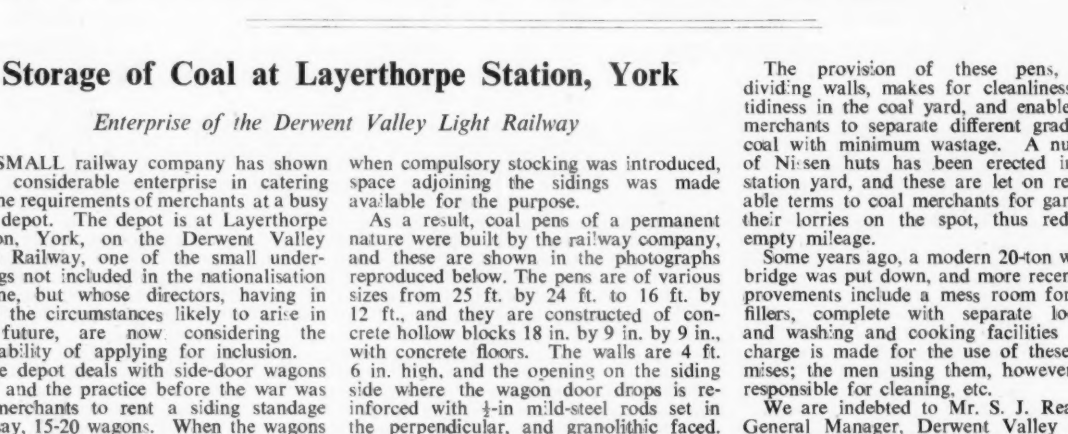
The depot deals with side-door wagons only, and the practice before the war was for merchants to rent a siding standage for, say, 15-20 wagons. When the wagons were requisitioned, however, coal no longer could be stored in this way, and when compulsory stocking was introduced, space adjoining the sidings was made available for the purpose.

As a result, coal pens of a permanent nature were built by the railway company, and these are shown in the photographs reproduced below. The pens are of various sizes from 25 ft. by 24 ft. to 16 ft. by 12 ft., and they are constructed of concrete hollow blocks 18 in. by 9 in. by 9 in., with concrete floors. The walls are 4 ft. 6 in. high, and the opening on the siding side where the wagon door drops is reinforced with $\frac{1}{2}$-in mild-steel rods set in the perpendicular, and granolithic faced. A short supporting buttress wall also is provided to withstand the strain.

The provision of these pens, with dividing walls, makes for cleanliness and tidiness in the coal yard, and enables the merchants to separate different grades of coal with minimum wastage. A number of Nissen huts has been erected in the station yard, and these are let on reasonable terms to coal merchants for garaging their lorries on the spot, thus reducing empty mileage.

Some years ago, a modern 20-ton weighbridge was put down, and more recent improvements include a mess room for coal fillers, complete with separate lockers, and washing and cooking facilities. No charge is made for the use of these premises; the men using them, however, are responsible for cleaning, etc.

We are indebted to Mr. S. J. Reading, General Manager, Derwent Valley Light Railway, for the photographs reproduced herewith, and for the information.



*A series of coal pens with dividing walls erected at Layerthorpe Station, York, enables fuel to be graded with minimum wastage*

# Electric Road Vehicles for the L.N.E.R. Express Parcels Service

*Battery type with electric interlocking to prevent conflicting operation of controls*

AMONG the new road vehicles now being put into service by the L.N.E.R. for the express delivery and collection of parcels forwarded by passenger train, are six 20-cwt. Morrison-Electricar battery vehicles of a special type, manufactured by Crompton Parkinson Limited. The vehicles are standard Morrison-Electricars with modifications and additional features specified by the L.N.E.R. for the class of service involved.

The frame of the vehicle is built of pressed-steel panel sections, designed to give adequate strength and durability with low weight. The driving motor is a 9-h.p. (1-hr. rating) traction type, directly coupled to a Hardy Spicer propeller shaft with a universal joint at each end. The driving axle has helical spur, and spiral bevel type gears, with bevel gear differentials, the gear ratio being 8·906 : 1. Splined high-tensile alloy steel drive shafts are used.

### Steering and Speed Control

The bar-type steering axle is drop-forged from high-quality steel. Steering is of the cam and roller type. Silico-manganese semi-elliptic leaf springs are used for the suspension. Speed control is effected by a four-speed solenoid contactor equipment, operated by an automatic delayed-action foot switch actuated by a pedal. The delayed-action automatically controls the rate of acceleration, and has the effect of avoiding excessive stressing of the vehicle.

A hand-operated main control switch is used for selecting forward or reverse running. It is fitted with an interlock, arranged to prevent any attempt to reverse the motor while the foot switch is being depressed.

In circuit with the foot switch is a relay, which can be closed only when the foot pedal is in the "off" position, and the main control switch is in either of the running positions. In the neutral position, the relay circuit is not established.

Since the relay remains open if the control switch is moved into either forward or reverse while the foot pedal is depressed, this must be returned to "off" before the vehicle can be started, and a correct starting sequence thus is ensured.

Another special feature is that the main switch is opened when the hand brake is applied, to ensure automatically that the motor is disconnected, and cannot be started when the vehicle is parked. Driving energy is provided by a Young traction-type battery of 36 cells, giving a 243-amp. hr. capacity at the 5-hr. rate of discharge.

### Details of Bodywork

The body of the vehicle has a hardwood frame, with all joints glued or bedded in white lead and securely screwed or bolted. Flattened 16-gauge sheet aluminium is used for exterior panelling of cab and body. Front and rear ends of the roof are plywood-panelled, and the remaining sections slatted with hardwood timber.

The whole is covered with white cotton duckcloth, and finished with an overlay of leatherette cloth. A front bumper and side rails are fitted to protect the body against minor damage.

The vehicle has an overall length of body of approximately 14 ft., and an overall width of 5 ft. 10 in. When unladen, the loading height is approximately 3 ft. The capacity of the body is 290 cu. ft. Two of the six vehicles are now operating in the Hull district, each covering a daily distance of about 30 miles, involving some 70 calls.

### Maintenance Costs

Maintenance is an important factor, having considerable influence on operating costs. The L.N.E.R. now has operated electric vehicles for a number of years, and finds that maintenance costs compare very favourably with the company's other forms of transport, due to the small number of defects which develop in service, and the short time required to make the routine inspection and adjustment necessary to keep the vehicles in efficient working condition. So far, no major troubles have been experienced.

The L.N.E.R. is one of the largest users of all types of road transport, and therefore has an unique opportunity of assessing their relative merits. By the decision to employ additional electric vehicles, the company demonstrates its practical appreciation of the special suitability of this type of vehicle for collection and delivery services in urban areas.

## G.W.R. Developments in Maintenance Equipment—7*

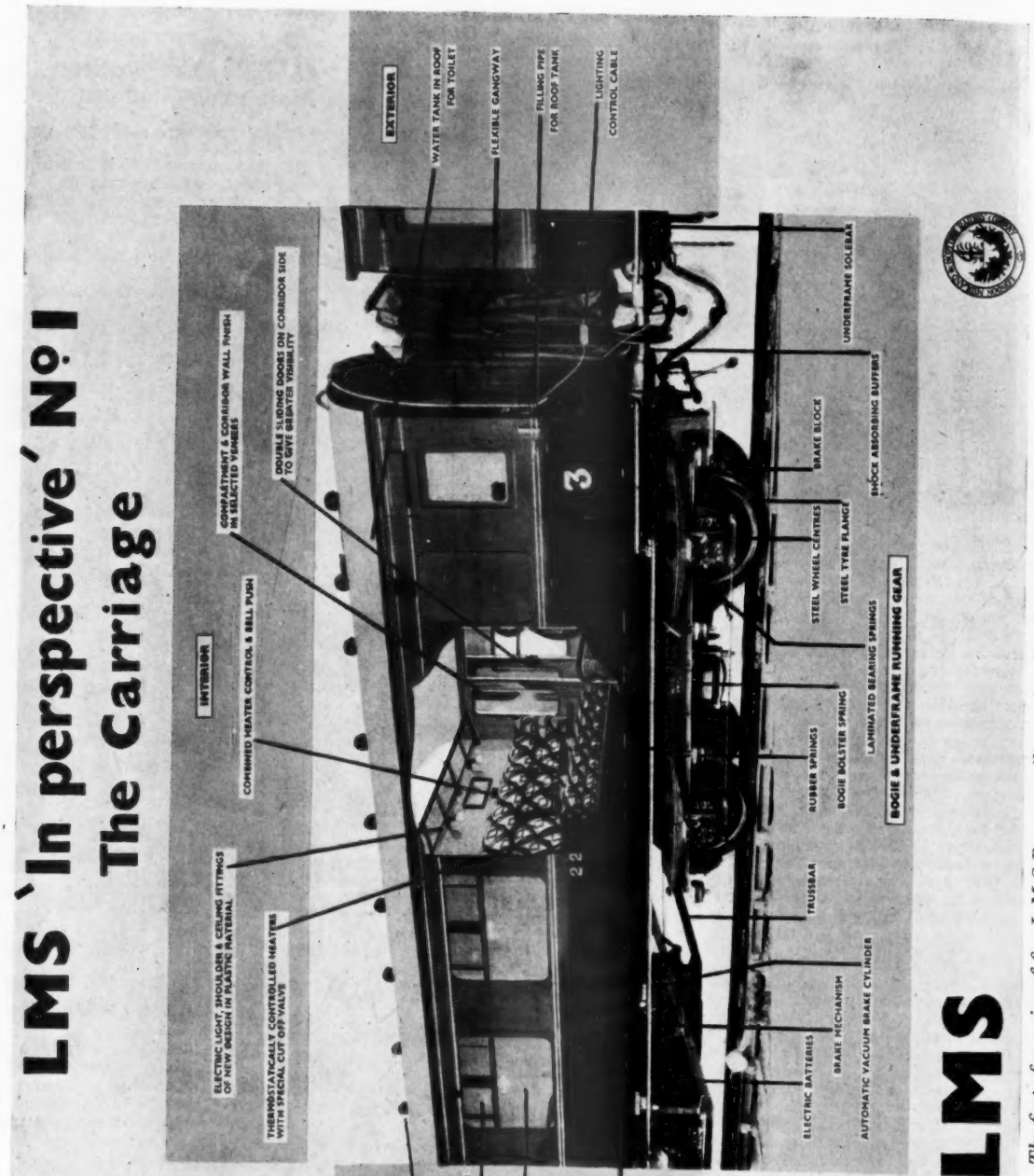
*Petrol-driven pick and attachments*

THE Warsop petrol pick shown below contains its own power unit in the form of a 249 c.c. engine, and is used for breaking up concrete, brickwork, asphalt and similar materials. It weighs 93 lb. without fuel and the steel point. The

manufacturer is Warsop Petrol Drill & Tools Limited, of 27, Regent St., London, S.W.1, who also supplies attachments for use with the tool for clay digging, and light ramming and pile driving. A special feature is that its use does not involve compressors and hoses.

NEW L.M.S.R. FRUIT & VEGETABLE VANS.—After experience with six experimental vehicles which have been in service for the transport of fruit and vegetables since April, 1946, the L.M.S.R. has decided to build 200 new ventilated vans for this type of traffic. The new vans will be used for the conveyance of fruit and vegetables from the Evesham district to markets in the Midlands and the North. They will be provided with improved ventilation; a double roof for insulation; and four permanently-attached wire-mesh shelves.

* Previous instalments in this series appeared in our issues of April 4 and 25, and May 2, 9, 16, and 23




*The first of a series of five L.M.S.R. posters illustrating familiar items of railway equipment* (see page 578)

# RAILWAY NEWS SECTION

## PERSONAL

Mr. H. C. Drayton has been elected Chairman of the Antofagasta (Chili) & Bolivia Railway Co. Ltd., and of its associated companies, the Chilian Northern Railway Co. Ltd., and Andes Trust Limited, in succession to the late Mr. A. G. Hunt.

Lt.-Colonel (Honorary Colonel) H. N. Brock, commanding the Great Indian Peninsula Railway Regiment, has been appointed Aide-de-Camp (Additional) to the King.

Mr. H. L. Brazier, Chief Clerk, Secretary's Department, Southern Railway, has been appointed Assistant to the Secretary.

We regret to record the death, at the age of 76, of Mr. John Auld, who retired in 1941 from the position of Principal Assistant to the Chief Mechanical Engineer, Great Western Railway.

Mr. Raymond Birch, who has been Director of the British Omnibus Companies Public Relations Committee since its inception five years ago, has resigned his appointment on account of increasing pressure of other duties, but remains a member of the executive committee. Mr. Peter Yorke, who joined the executive committee last year, has been appointed Director in his place.

Mr. N. A. Hunt has been elected a Director of Scammell Lorries Limited.

INDIAN RAILWAY STAFF CHANGES

Mr. K. J. McNeill, Regional Controller of Railway Priorities, Government of India, Department of Transport, Bombay, relinquished that post and proceeded to the United Kingdom on leave prior to retirement in April, 1947. He is succeeded by Mr. J. C. Wightwick, lately Deputy Chief Transportation Superintendent, G.I.P.R.

Mr. D. Macaulay has been appointed to officiate as Chief Mechanical Engineer, B.A.R., as from January 30.

Mr. L. G. Bigg-Wither has been appointed to officiate as Locomotive & Carriage Superintendent, B.B.C.I.R., as from January 21.

Mr. S. B. Deshpande has been appointed to officiate as Chief Electrical Engineer, N.W.R., as from January 25.

We regret to record the death on June 1, in his 92nd year, of Lt.-Colonel Frederick Garwood Randall, Superintendent of the Line, Great Eastern Railway, from 1911 until his retirement in 1914.

Sir Reginald Robins, General Manager, Kenya & Uganda Railways & Harbours, has left for the United Kingdom on leave. Mr. A. Dalton, Deputy General Manager & Superintendent of the Line, is acting as General Manager in his absence.

Lord Dudley Gladstone Gordon, D.S.O., M.I.Mech.E., who is President for 1947-48 of the Institution of Mechanical Engineers, the centenary of which is being celebrated during the week commencing June 8, was born on May 6, 1883, the second son of the seventh Earl, and later first Marquess, of Aberdeen. He was educated at Cargifield, Edinburgh, and at Harrow. He left Harrow in 1902, and became a pupil at the shipyard of Hall, Russell & Co. Ltd., Aberdeen; and in 1905 he continued his training in the engineering departments and on the technical staff of W. H. Allen, Sons & Co. Ltd., Bedford. He joined J. & E. Hall Limited, Dartford and London, in 1907, and, after a period of training in the shops and on outside erection work, became a member of the staff in 1909, a Director in 1910, a Managing Director in 1912, and Chairman in 1937. He has specialised in refrigeration, and from 1910 to 1945 was generally responsible for the land-type refrigerating installations carried out by his company. From 1914 to 1918 he served in France and Belgium with the Gordon Highlanders, was awarded the D.S.O. in 1917, and commanded the 8/10th Battalion of that regiment. Besides being Chairman of J. & E. Hall Limited, Lord Dudley Gordon is Chairman of Hadfields Limited, and a Director of Barclays Bank Limited, Phœnix Assurance Co. Ltd., and Industrial & Commercial Finance Corporation Limited. He was President of the British Association of Refrigeration, 1926-29, President of the British Engineers' Association, 1936-39, and President of the Federation of British Industries, 1940-42. Lord Dudley Gordon was elected a Member of Council of the Institution of Mechanical Engineers in 1940, and a Vice-President in 1944.

*Lord Dudley Gordon*
President, Institution of Mechanical Engineers, for 1947-48

Mr. Herman Press, Treasurer of the American Locomotive Company, has been elected to the board of the Montreal Locomotive Works Limited.

We regret to record the death, at the age of 69, of Mr. W. W. Graham, O.B.E., a Director, and formerly General Manager, of Hants & Dorset Motor Services Limited. Mr. Graham inaugurated public service buses in Bournemouth in 1916.

Mr. J. H. Jolly has been elected to the boards of the Midland Bank Limited and the Midland Bank Executor & Trustee Co. Ltd.

INSTITUTE OF TRANSPORT

The undernamed have been elected by the Council of the Institute of Transport to hold office for the year commencing October 1, 1947:—President: Mr. T. W. Royle; Vice-Presidents: Mr. V. M. Barrington-Ward, Mr. R. Davidson, Mr. S. R. Geary, Brigadier-General Sir Osborne Mance, Sir Douglas Ritchie, Mr. J. S. Wills; Honorary Treasurer: Mr. S. Kennedy; Honorary Librarian: Mr. C. T. Brunner; Honorary Solicitors: Joynson-Hicks & Company; Past-Presidents to serve on the Council: Mr. R. Kelso, Mr. J. S. Nicholl, Sir Frederick Handley Page, Mr. R. Stuart Pilcher, Sir Theodore Thomas, Sir William Wood.

The undernamed Ordinary Members of Council will retire at September 30, 1947:—Nine Members: Messrs. C. Barrington, C. T. Brunner, Sir John Fisher, Messrs. K. W. C. Grand, J. Ness, W. G. Pape, F. A. Pope, F. W. Tipton, J. S. Wills; one Associate Member: Mr. G. Dickinson. To fill the vacancies created by the foregoing retirements, the Council has nominated the following:—Nine Members: Messrs. David Blee (Chief Goods Manager, G.W.R.), M. A. Cameron (Assistant Passenger Manager, Southern Area, L.N.E.R.) (former Member of Council), H. W. Elliott (Assistant General Manager, Hay's Wharf Cartage Co. Ltd.) (former Member of Council), P. M. Hill (General Manager, Chamber of Shipping of the United Kingdom), George Morton (Chief Accountant, L.M.S.R.) (former Member of Council), A. B. MacLeod (Stores Superintendent, Southern Railway), Horace Shankland (Local Director, National Sales, Dunlop Rubber Co. Ltd.), D. M. Sinclair (General Manager, Birmingham & Midland Motor Omnibus Co. Ltd.), J. O. Wood (Chairman & Managing Director, T. F. Wood & Co. Ltd.); one Associate Member: Mr. C. F. Klapper (Assistant Editor, *Modern Transport*).

The representatives on the Council of air transport and "general" continue to serve.

The first of a series of five L.M.S.R. posters illustrating familiar items of railway equipment (see page 578)

Lt.-Colonel E. W. Slaughter, C.B.E., M.I.Mech.E., M.Inst.T., who retired at the end of last year from the position of Managing Director of H.E.H. the Nizam's State Railway, and was appointed its London Agent, served in the 1914-18 war as an Engineer officer, and thereafter took up an appointment with the Egyptian Government under the Public Works Ministry. In 1927 he was transferred to the Egyptian State Railways as Assistant Chief Mechanical Engineer, and was promoted to be Deputy Chief Mechanical Engineer in 1933. During his E.S.R. service he was responsible for the construction of the locomotive workshops at Abu Zalal, Cairo, the organising of the Egyptian Railway Museum, and the inauguration of the road and water services of the State Railways. He also represented the railways on numerous transport development and co-ordination boards, and, in 1931 and 1933, was sent on special missions to railways in Belgium, Germany, Poland and England. He was appointed Deputy Locomotive Superintendent, Nizam's State Railway, in 1935, and afterwards officiated as both Locomotive & Carriage Superintendent and Chief Transportation Superintendent, before being appointed General Manager in 1936. In 1941 he became Managing Director of the Nizam's State Railway Board, responsible for the railway, road services and air development. In addition to his transport responsibilities he was Adviser to Commerce & Industries, H.E.H. the Nizam's Government, from 1939; Adviser to the Eastern Group Conference, 1941, and Chairman of its Engineering Stores Committee; Chairman of Hyderabad War Supplies Committee, and had direction of the technical training; Director of Controls for supplies, metals, coal, etc.; and Vice-President of Hyderabad Scientific & Industrial Research Board. Colonel Slaughter commanded for nine years the Hyderabad Rifles. He holds the Egyptian decorations of a Commander of the Order of the Nile and a Commander of the Order of Ismail. He was made an M.B.E. in 1917, and a C.B.E. in 1943.

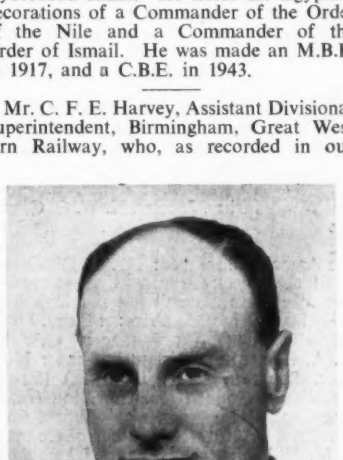
*Lt.-Colonel E. W. Slaughter*

Managing Director, Nizam's State Railway, 1941-46, and now London Agent

Mr. C. F. E. Harvey, Assistant Divisional Superintendent, Birmingham, Great Western Railway, who, as recorded in our May 2 issue, has been appointed Divisional Superintendent, Worcester, entered the company's service in 1923 in the Divisional Superintendent's Office, Paddington. After a short period of training in the Exeter, Birmingham and Paddington Divisions, he transferred to the Publicity Department, Office of the Superintendent of the Line, in 1926. In 1927 he was appointed Superintendent of the Line's Passenger Train Runner. In 1929 he became Junior Assistant to Divisional Superintendent, Cardiff, and in 1932 transferred in a similar capacity to Birmingham. He was appointed Chief Clerk to District Traffic Manager, Plymouth, in 1935, and Assistant to Divisional Superintendent, Exeter, in 1937. On the outbreak of war Mr. Harvey was mobilised in 154 (G.W.) Railway Operating Company, R.E. (S.R.), with the rank of Captain. After a year as Instructor (Operating) at the Railway Training Centre, R.E., Longmoor, he proceeded to H.Q., Middle East, as Deputy Assistant Director, Transportation, with the rank of Major. In 1942, he formed No. 6 Railway Operating Group in the Middle East, with the rank of Lt.-Colonel, and acted for a short time as District Operating and Locomotive Running Superintendent, Sinai District, Palestine Railways, subsequently transferring to the Western Desert Railway in Egypt after the Battle of Alamein. With the close of operations in Egypt he proceeded to Italy and assisted in re-organising the Italian State Railways after the retirement of the Germans from the southern half of the country. He was mentioned in dispatches for that work; and on the completion of 4½ years overseas service he returned to England. For a short time he commanded the Home Railway Operating Group, before proceeding to Germany in 1945 to command No. 1 Railway Control Team at Osnabruck, with the rank of Colonel, until demobilisation in August, 1945. Mr. Harvey was appointed Assistant Divisional Superintendent, Birmingham, in October, 1945.

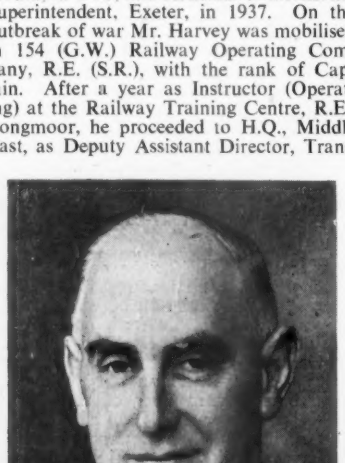
Mr. John Thompson, who, as recorded in our May 9 issue, has been appointed Mechanical Engineer, Northern Counties Committee, L.M.S.R., entered the service of the N.C.C. in 1913, serving an apprenticeship in the workshops and drawing office. He became Assistant Works Manager in 1932 and later Works Manager. Since the death last year of Mr. Malcolm Patrick, Mr. Thompson has been carrying out the duties of Mechanical Engineer in an acting capacity, and he is now confirmed in the appointment.

Mr. G. M. Johnston, M.B.E., A.M.Inst.T., District Superintendent, Edinburgh, L.N.E.R., who, as recorded in our May 16 issue, has retired, joined the North British Railway in 1898. In 1908 he went to the Train Working Section, District Traffic Superintendent's Office, Dundee, and in 1914 was placed in charge of the Accounts Section in the same office; and in 1916 was made Chief Trains Clerk in that office. In 1920 he transferred to the District Operating Superintendent's Office, Burntisland, as Chief Passenger Trains Clerk. At that time, the organisation as between the Operating and Commercial Departments was changed, whereby the



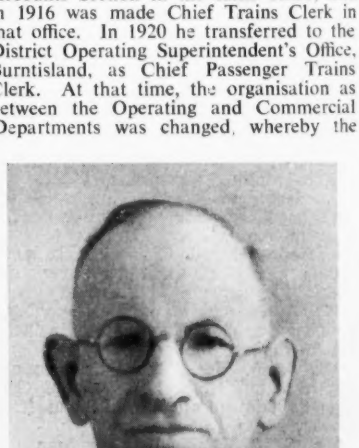
*Mr. C. F. E. Harvey*

Appointed Divisional Superintendent, Worcester, G.W.R.



*Mr. John Thompson*

Appointed Mechanical Engineer, Northern Counties Committee, L.M.S.R.



*Mr. G. M. Johnston*

District Superintendent, Edinburgh, L.N.E.R., 1942-47

commercial work in the Dundee and Burntisland Districts was placed under a District Commercial Officer stationed at Dundee, and all the operating work in the two districts put under the charge of the District Operating Officer at Burntisland. Mr. Johnston was promoted Chief Controller in Burntisland Control in 1920, and he was appointed Chief Assistant to District Operating Superintendent, Edinburgh, in 1929. He became Assistant to Superintendent, Edinburgh, in 1931, and remained in that post until appointed District Superintendent, Edinburgh, in June, 1942. Mr. Johnston was made an M.B.E. in the New Year Honours, 1945.

A portrait and biography of Mr. G. Crabtree, Trains Assistant to Superintendent & Locomotive Running Superintendent, Scottish Area, L.N.E.R., who has now been appointed District Superintendent, Edinburgh, appeared in our issue of February 15, 1946.

### L.M.S.R. Appointments

Mr. E. C. Dewick, Divisional Land & Estate Agent, Glasgow, to be Divisional Estate & Rating Agent, Glasgow.

Mr. H. J. T. Paige, Assistant Divisional Land & Estate Agent, Glasgow, to be Assistant Divisional Estate & Rating Agent, Glasgow.

Mr. A. Stewart, Chief Staff Clerk, Office of Chief Officer for Scotland, Glasgow, to be Staff Assistant, Office of Chief Officer for Scotland, Glasgow, in place of Mr. D. Galbraith, retired.

Mr. G. A. King, Assistant to District Goods Manager, Wolverhampton, to be Assistant District Goods & Passenger Manager, Bristol.

Mr. J. B. Innes, Assistant (Engineering), District Engineer's Office, Edinburgh, to be Assistant District Engineer, Edinburgh.

Mr. D. M. Howes, Yardmaster, Stafford, to be Assistant to District Operating Manager, Nottingham.

Mr. W. H. Mitchell, Chief & Accounts Clerk, Goods Department, Fleetwood, to be Assistant Superintendent, Fleetwood.

Mr. W. Read, Joint Goods Agent, Huddersfield (L.M.S.R. & L.N.E.R.), to be Goods Agent, Leeds (Wellington Street).

Mr. H. Read, Chief Transit & Station Working Clerk, District Goods Manager's Office, Leeds, to be Joint Goods Agent, Huddersfield (L.M.S.R. & L.N.E.R.).

Mr. W. Picken, Clerk-in-Charge, Ledger Deductions Section, Accounts Office, Glasgow, to be Goods Agent, Govan.

Mr. D. A. F. Quekett, Goods Agent, Kew Bridge, to be Goods Agent, Dagenham Dock.

Mr. L. E. Watkins, Head Office Inspector (Passenger Services), Office of Divisional Operating Manager, Crewe, to be Stationmaster, Wolverhampton, also in charge of Wednesfield.

Mr. G. A. Addy, Stationmaster, Fleetwood, also in charge of Wyre Dock (Passenger) and Burn Naze, to be Passenger Agent, Blackpool, North & Central.

Mr. J. B. Cartwright, Assistant District Controller, Stafford, to be Railway Service Representative (Race Traffic), Chief Commercial Manager's Office, Watford.

Mr. P. Hodges, District Foreman, Carriage & Wagon Department, Wigan, to be District Foreman, Carriage & Wagon Department, Rugby.

Mr. W. J. Upton, Inspector (General), Carriage & Wagon Department, St. Pancras, to be District Foreman, Carriage & Wagon Department, Shoeburyness.

Mr. W. C. Labraham, Chief Permanent Way Inspector, Northampton, to be Chief Permanent Way Inspector, Watford.

We regret to record the death on May 29 of Major William Buchanan, M.C., J.P., Vice-Chairman & Managing Director of Pease & Partners Limited.

We regret to record the death at Basle on June 1, at the age of 51, of Mr. J. Eich, Continental Traffic Manager for Thos. Cook & Son Ltd.

### Mr. James Dalziel: An Appreciation

We have received the following appreciation with the L.M.S.R., there will be few, if any, members of his former staff who will not feel a personal loss at the news of his death. Few also will be able to resist the immediate reaction of recalling the pleasant associations of his leadership which commanded a loyalty so rarely engendered today.

A dour Scot with an accent that never mellowed, his capacity for work was prodigious, and by present-day standards he would have been considered a hard taskmaster, but he was always human, always approachable. He extended the same courtesy to the junior members of his staff as he did to everybody else, encouraged them to contribute to the discussion on any project and never evaded the responsibility of an introduction to their advantage, whatever the contrast in status.

A summons to his presence never failed to excite speculation, and it was rarely that one could approach his office with complete abandon. If all was not well he expressed himself in no uncertain language—his appreciation was more subtle but never forgotten. There was never any carry-over of feeling, either good or bad, from one interview to the next.

With his departure from the railway company one felt the loss of a leader; with his departure from this life one mourns the loss of a gentleman.

### I.L.O. Inland Transport Committee

The second session of the International Labour Organisation Inland Transport Committee was held at Geneva last month, when 23 nations were represented by tripartite delegations. The United Kingdom delegation consisted of:—

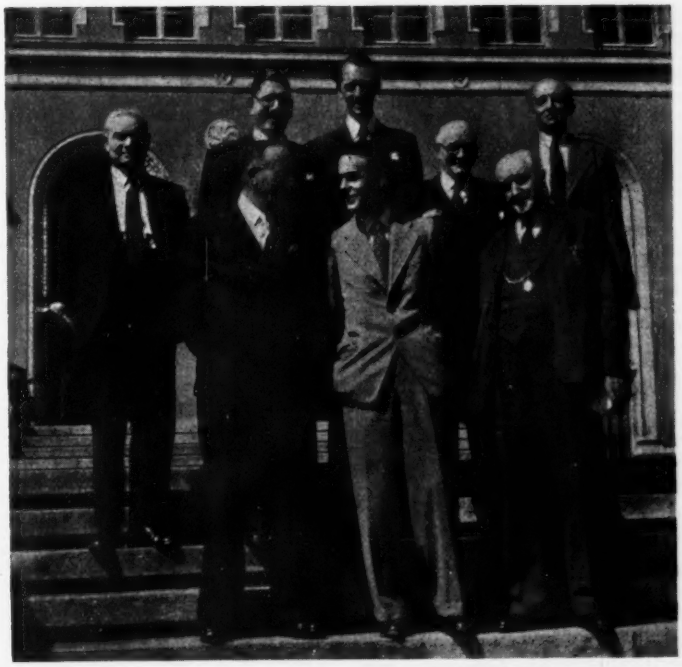
*Government*:—Delegates: Mr. D. Tennant, Assistant Secretary, Ministry of Labour & National Service, Mr. S. R. Walton, Assistant Secretary, Ministry of Transport; Advisers: Mr. R. Abraham, Assistant Secretary, Ministry of Civil Aviation, Mr. G. W. Cole, Head of Social Insurance Branch, Control Commission for Germany (British Element).

*Employers*:—Delegates: Mr. Frank Gilbert, Deputy Chief Officer for Labour & Establishment, Southern Railway, Mr. G. W. Quick Smith, Secretary, National Road Transport Federation; Adviser: Mr. George Shrosbree, Secretary, Employers' Side, National Joint Council for Civil Air Transport, Staff Controller, British Overseas Airways Corporation.

*Workers*:—Delegates: Mr. H. E. Clay, Assistant General Secretary, Transport & General Workers' Union, Mr. J. E. Binks, President, National Union of Railwaymen.

Mr. G. W. Quick Smith was elected Chairman of the Employers' Group and Mr. Fraser (U.S.A.), Chairman of the Workers' Group. The main subjects considered by the committee covered (*a*) industrial relations, (*b*) employment, (*c*) transport statistics, (*d*) conditions of workers employed on the Rhine Navigation.

**U.K. Delegation, I.L.O. Inland Transport Committee**



*Group taken during second session at Geneva, May, 1947. Back row: Messrs. G. Shrosbree, G. W. Quick Smith, S. R. Walton, H. E. Clay, R. Abraham; front row: Messrs. F. Gilbert, D. Tennant, J. E. Binks (see accompanying paragraph)*

# Argentine Railway Sale Proceeds Division

The British-Argentine Railway Council announced on April 21, 1947, that Sir Andrew Duncan, G.B.E., M.P., Sir David Maxwell Fyfe, K.C., M.P., and Mr. Gilbert D. Shepherd, J.P., F.C.A., President of the Institute of Chartered Accountants, had agreed to act as a panel to consider the allocation amongst the holders of the different classes of loan and share capital of the British-Argentine railway companies, of the sums which will become available to those companies as a result of the sale and realisation of their railways and other assets.

## Allocations

It was stated that as soon as the panel's consideration of the directors' proposals had been concluded, the figures of the proposed allocations would be published. The panel's consideration of the proposals has been concluded and the accompanying table sets out the allocations resulting from the proposals of the directors of the companies as adjusted in the course of discussions with the panel, and to be embodied in a general scheme of arrangement.

Application will be made shortly to the High Court for the summoning of the meeting of the holders of the various classes of loan and share capital necessary for the consideration of the scheme. The text of the Scheme of Arrangement was put in the hands of the printers over last week-end.

It will be appreciated that the printing and despatch of about a quarter of a million sets of the scheme and explanatory circulars and accompanying documents, is a task which in present conditions cannot be completed in less than several weeks. Those concerned are asked, before reaching conclusions, to await receipt of the documents, in the knowledge that every possible means is being taken to expedite the issue of the full statements without which it is impossible for a scheme of this complicated and far-reaching character to be fairly assessed.

To ensure (as the Council considers very desirable) that all the meetings (over 60 in number) if at all possible shall be convened so as to be held not later than August 1 next, it will be necessary to issue documents relating to one or more of the companies before the documents relating to the others are available. On present expectations, it may be hoped that the documents of the company whose meetings will be held first will be posted so as to enable meetings of the holders of that company's loan and share capital to be held on or about July 24, and that the meetings of the other companies concerned will follow successively at very short intervals.

The accompanying table sets out the securities and the percentages of the nominal values of those securities which the holder may expect to receive on the basis of present estimates of the net distributable sums.

## Accrued Interest

The consideration receivable for the assets which are to be sold to the Argentine Government is a fixed amount, but there is interest to accrue thereon, and there are other assets which remain to be realised; and there are also certain commitments and contingencies to be provided for. The amounts of these latter items can only be estimated.

Variations from the estimates will not affect the amounts receivable by the holders of the loan capital. As regards the share capital, the possibility is that in some cases the actual return may somewhat exceed the estimate. An excess (or deficiency, should there be one) will, in the case of Buenos Ayres Western, be for account of the holders of the ordinary

**TABLE OF ALLOCATIONS**

| (1) Security | (2) Capital issued | (3) To receive | (4) Amount |
|---|---|---|---|
| *Buenos Ayres Great Southern Railway—* | £ | Per cent. | £ |
| 4 per cent. debenture stock | 20,192,000 | 100 | 20,192,000 |
| 4½ per cent. special debenture stock | 1,032,930 | 100 | 1,032,930 |
| 4½ per cent. Buenos Ayres Western Railway annuity | 242,600 | 100 | 242,600 |
| 5½ per cent. redeemable debenture stock | 2,157,019 | 100 | 2,157,019 |
| 5 per cent. preference stock (non-cumulative) | 8,000,000 | 75 | 6,000,000 |
| 6 per cent. preference stock (non-cumulative) | 8,000,000 | 50 | 4,000,000 |
| Ordinary stock | 32,000,000 | 20 | 6,400,000 |
| | £71,624,549 | | £40,024,549 |
| *Bahia Blanca & North Western Railway—* | | | |
| 4 per cent. 1st debenture stock | 2,450,000 | 100 | 2,450,000 |
| 4½ per cent. 2nd debenture stock | 3,000,000 | 100 | 3,000,000 |
| 4½ per cent. guaranteed stock | 4,600,000 | 90 | 4,140,000 |
| | £10,050,000 | | £9,590,000 |
| *Buenos Ayres Western Railway—* | | | |
| 4 per cent. debenture stock (secured) | 9,872,203 | 100 | 9,872,203 |
| 5 per cent. debenture stock (secured) | 777,711 | 100 | 777,711 |
| 5½ per cent. collateral debenture stock | 185,719 | 102 | 189,434 |
| 5 per cent. preference stock | 300,000 | 100 | 300,000 |
| 4½ per cent. preference stock | 2,552,340 | 100 | 2,552,340 |
| Ordinary stock | 17,347,660 | 25 | 4,336,915 |
| | £31,035,633 | | £18,028,603 |
| *Buenos Ayres Midland Railway—* | | | |
| 4 per cent. debenture stock | 2,400,000 | 100 | 2,400,000 |
| 4 per cent. preference stock | 1,000,000 | 100 | 1,000,000 |
| Ordinary stock | 500,000 | 80 | 400,000 |
| | £3,900,000 | | £3,800,000 |
| *Central Argentine Railway—* | | | |
| 4½ per cent. Western annuity | 2,017,500 | 100 | 2,017,500 |
| 3½ per cent. Central debenture stock | 49,440 | 100 | 49,440 |
| 4 per cent. debenture stock | 16,076,360 | 100 | 16,076,360 |
| 5 per cent. red. debenture stock 1967/87 | 7,705,624 | 100 (*a*) | 7,705,624 |
| 5 per cent. red. debenture stock 1967/87 (non-convertible) | 243,210 | 100 (*a*) | 243,210 |
| 5½ per cent. bearer notes | 1,764,600 | 110 (*b*) | 1,941,060 |
| Interest certificates | 19,018 | 50 | 9,509 |
| 4½ per cent. preference stock | 9,695,718 | 32½ | 3,151,108 |
| 6 per cent. cumulative preference stock | 5,000,000 | 37½ | 1,875,000 |
| Consolidated ordinary stock | 28,186,950 | 21¼ | 5,989,727 |
| Deferred stock | 811,800 | 15 | 121,770 |
| | £71,570,220 | | £39,180,308 |
| Accrued interest to be paid, see Notes (*a*) and (*b*) | | | 1,114,758 |
| | | | £40,295,066 |
| *Buenos Ayres and Pacific Railway—* | | | |
| 4 per cent. 1st debenture stock | 2,925,000 | 100 | 2,925,000 |
| 4½ per cent. 2nd debenture stock | 2,075,000 | 105 | 2,178,750 |
| 4½ per cent. consolidated debenture stock | 7,942,673 | 110 | 8,736,940 |
| 5 per cent. 1912 debenture stock | 5,000,000 | 110 | 5,500,000 |
| 5 per cent. 1st preference stock (cumulative) | 1,200,000 | 35 | 420,000 |
| 5 per cent. 2nd preference stock (non-cumulative) | 1,000,000 | 25 | 250,000 |
| 6 per cent. preference stock (cumulative) | 2,000,000 | 25 | 500,000 |
| Ordinary stock | 10,000,000 | 12½ | 1,250,000 |
| | £32,142,673 | | £21,760,690 |
| *Argentine Great Western Railway—* | | | |
| 4 per cent. 1st debenture stock | 1,700,000 | 100 | 1,700,000 |
| 4 per cent. 2nd debenture stock | 1,700,000 | 100 | 1,700,000 |
| 5 per cent. debenture stock | 5,452,000 | 110 | 5,997,200 |
| 5 per cent. preferred stock (cumulative) | 2,125,000 | 37½ | 796,875 |
| 6 per cent. guaranteed preference stock | 3,500,000 | 65 | 2,275,000 |
| Ordinary stock | 2,125,000 | 17½ | 371,875 |
| | £16,602,000 | | £12,840,950 |
| *Villa Maria & Rufino Railway—* | | | |
| 4 per cent. 1st debenture stock (irredeemable) | 673,500 | 100 | 673,500 |
| 4½ per cent. guaranteed stock | 393,750 | 60 | 236,250 |
| | £1,067,250 | | £909,750 |
| *Entre Rios Railways—* | | | |
| 4 per cent. debenture stock | 1,505,000 | 102½ | 1,542,625 |
| 5 per cent. debentures | 700,000 | 100 | 700,000 |
| 5 per cent. consolidated debenture stock | 1,700,000 | 80 | 1,360,000 |
| 6 per cent. 1st preference stock (cumulative) | 2,000,000 | 25 | 500,000 |
| 4 per cent. 2nd preference stock (non-cumulative) | 734,049 | 15 | 110,107 |
| Ordinary stock | 1,783,140 | 12½ | 222,892 |
| | £8,422,189 | | £4,435,624 |
| *Argentine North Eastern Railway—* | | | |
| 5½ per cent. prior lien debenture stock | 44,100 | 102 | 44,982 |
| 5 per cent. "A" debentures and debenture stock | 1,200,000 | 110 | 1,320,000 |
| 5 per cent. "B" debentures and debenture stock | 1,229,440 | 110 | 1,352,384 |
| "C" debentures and debenture stock | 1,023,750 | 80 | 819,000 |
| Ordinary stock | 2,768,500 | 12½ | 346,062 |
| | £6,265,790 | | £3,882,428 |

(*a*) Together with 50 per cent. of interest accrued since January 1, 1944, to September 30, 1947 (£731,015)
(*b*) Together with 50 per cent. of interest accrued from July 1, 1940, to September 30, 1947 (£383,743)

stock and in all other cases will be shared between the classes of share capital concerned in the ratios of the respective estimated aggregate amounts receivable by those classes as shown in column 4 of the sub-joined table.

The scheme provides that where interest on loan capital is being currently paid that interest will continue until September 30, 1947, and will then cease. Arrears of interest, or of cumulative preference dividends, except where otherwise shown in the table, will be cancelled.

As indicated already, the directors' proposals, as adjusted, have received the approval of the panel. Careful consideration was given both by the companies and by the moratorium committees as to the position of the committees, but having regard to the terms under which the committees were appointed, and to the fact that the present situation was not then contemplated, it was agreed between all concerned that it was preferable that the committees should not be consulted as to the division now announced.

APPROVAL FOR DISTRIBUTION

In publishing at this juncture the figures of the allocations given on page 598, the Council is acting in the belief that it was right that so soon as the proposed figures had been decided on, they should become public property. It must, however, be clearly understood that a distribution of the net proceeds of sale on the basis of the sub-joined table is dependent on the approval of the scheme as a whole by every class of holder of loan and share capital of all the companies concerned, and on the sanction of the scheme by the High Court and ratification of the sale agreement dated February 13, 1947, by the board of the Argentine Institute for the Promotion of Interchange.

## G.W.R. Women's First-Aid Competition

The Great Western Railway women's first-aid competition took place recently in the Porchester Hall, Paddington, the first occasion on which it has been possible to hold the contest since 1939. The results were as follow:—

| | Marks (maximum 360) |
|---|---|
| 1st—Plymouth ... ... ... ... winners of Florence M. Lean Cup, individual cups and prizes | 226½ |
| 2nd—Paddington ... ... ... winners of Mabel A. Potter Cup and prizes | 219½ |
| 3rd—Swindon B ... ... ... | 215 |
| 4th—Swindon A ... ... ... | 206 |
| 5th—Teignmouth ... ... ... | 165 |

Colonel E. J. Selby was the adjudicator in both the team and individual contests. The subsequent presentation of trophies and prizes was presided over by Mr. H. Adams Clarke, Chief Staff & Establishment Officer, who was supported by Messrs. A. S. Quartermaine, Chief Engineer, H. E. Hedges, General Assistant to General Manager, R. Burgoyne, Assistant Chief Staff & Establishment Officer, H. R. Webb, Stores Superintendent, Mrs. Webb, Messrs. T. H. Hollingsworth, General & Staff Assistant to Chief Goods Manager, C. A. Humphries, Chief Welfare Officer, Miss E. Brenan, Chief Welfare Supervisor for Women, Messrs. A. T. F. Waple, Staff & Office Assistant to Chief Engineer, H. G. Kerry, Divisional Locomotive Superintendent, London, P. Anstey, Ambulance Centre Secretary, and J. A. Martin, Assistant Ambulance Centre Secretary. Mrs. Adams Clarke presented the prizes and trophies.

## Staff and Labour Matters

### Railway Wages and Conditions

Subsequent to the meeting between the Ministers of Transport and Labour and union representatives on May 27, to which reference was made in our May 30 issue, the Minister of Labour on May 28 issued the following statement:—

Following the Ministers' meeting yesterday with representatives of the railway unions and of the Railway Shopmen's Council about the position reached on the applications for improved wages and conditions, the matter has been discussed with the railway companies. In the light of all the circumstances the Minister has decided to set up a court of inquiry under the Industrial Courts Act, 1919, to inquire into the applications and to make recommendations. The court will be constituted forthwith.

The Ministry of Labour on June 2 announced the constitution of the court of inquiry, as follows: Mr. C. W. Guillebaud (chairman), Mr. G. G. Honeyman, Professor I. W. Macdonald, Lt.-Colonel Ernest Briggs, Mr. A. G. Tomkins.

## Mechanical Engineering Research Organisation

A special organisation is being set up by the Government, through the Department of Scientific & Industrial Research, to undertake research in mechanical engineering, with the object of meeting and—still more—anticipating the needs of industry. An expenditure in the region of £250,000 to £350,000 a year is expected.

Sir Edward Appleton, Secretary of the Department of Scientific & Industrial Research, explaining the objects of the new organisation at a recent Press conference, said that the research was intended primarily to supplement the work already being carried out in other research institutions in this country, and would be confined largely to those fundamental problems underlying all branches of mechanical engineering. The following subjects will be covered:—

(*a*) Properties and strength of materials. (*b*) Mechanics of solids, stress, stability, and vibration of structures. (*c*) Mechanics of fluids, aerodynamics, gas dynamics, and hydraulics in their mechanical engineering application. (*d*) Lubrication, wear, and mechanical engineering aspects of corrosion. (*e*) Mechanisms, engineering metrology, and noise control. (*f*) Mechanics of formation of materials, and machine shaping of materials. (*g*) Heat transfer, heat-exchange apparatus, and applied thermodynamics.

Dr. G. A. Hankins, Superintendent of the Engineering Division of the National Physical Laboratory, has been appointed Director of Mechanical Engineering Research, and will be advised by the following board of scientists, technicians, and industrialists, who will give their services free.

*Chairman*: Dr. H. L. Guy, Secretary of the Institution of Mechanical Engineers. *Members*: Mr. L. Akehurst (L.P.T.B.), Professor R. N. Arnold (Professor of Engineering, University of Edinburgh), Dr. S. F. Dorey (Chief Engineer Surveyor, Lloyd's Register of Shipping), Sir Claude Gibb (C. A. Parsons & Co. Ltd.), Dr. H. J. Gough (Engineer-in-Chief, Lever Bros. & Unilever Ltd.), Sir William Halcrow, Mr. M. B. Hoseason (Brush Electrical Co. Ltd.), Dr. C. H. Lander (Principal, Military College of Science), Professor N. F. Mott, Professor D. M. Newitt (Professor of Chemical Engineering, Imperial College of Science & Technology), Sir Ewart Smith (Imperial Chemical Industries Limited), Professor H. W. Swift (Professor of Engineering, University of Sheffield), and Dr. C. Sykes (Director, Brown-Firth Research Laboratory).

The new research organisation will work in close liaison with the National Physical Laboratory, the engineering division of which has a long tradition of research of high quality, and which will provide the nucleus in due course of the new organisation. The research workers will be mainly engineer-scientists and will include also physicists and mathematicians.

## Questions in Parliament

### Hand Rails for Standing Passengers

Mr. George Wallace (Chislehurst—Lab.) on May 19 asked the Minister of Transport if he would now make a statement on his suggestion that hand straps attached to luggage racks be provided on Southern electric trains for the safety and convenience of standing passengers, especially on the Bexleyheath and Dartford loop lines.

Mr. Alfred Barnes (Minister of Transport) in a written answer, stated: I understand the Southern Railway is considering the installation of a horizontal hand rail in compartment coaches of new electric stock now about to be constructed.

### Embargo on Special Trains

Mr. George Wallace (Chislehurst—Lab.) on May 19 asked the Minister of Transport whether he would grant rail transport facilities to the Swanley, Kent, Working Men's Club for a children's outing to Margate, on which matter correspondence had already been submitted to him by Mr. Wallace.

Mr. Alfred Barnes, in a written answer, stated: No. As I have already informed Mr. Wallace, I regret that I am unable to lift the embargo on special trains for sporting and social outings for events of this kind, due to the need to economise in coal.

### Special Trains for Military Tattoo

Captain S. T. Swingler (Stafford—Lab.) on May 20 asked the Secretary of State for War whether he was now in a position to make a statement on the proposed provision of special trains between Hanover and Berlin for spectators of the Grand Military Tattoo in August; and if he would give an estimate of the amount of coal required for the purpose.

Major J. Freeman (Financial Secretary to the War Office), in a written answer, stated: Since the Secretary of State for War wrote to Captain Swingler about this matter on May 14 he has had the proposed provision of special trains re-examined and it is now intended to run three trains daily in each direction, making a total of 36 trains, with a maximum coal consumption of 360 tons.

### Billeted Train Men at Westbury

Mr. R. V. Grimston (Westbury—C.) on May 19 asked the Minister of Food what action he proposed to take to meet the grievances of trainmen compulsorily billeted away from their homes in railway coaches at Westbury who had been obliged to surrender their ration books, with the result that they and their families were denied certain allowances under the ration enjoyed by the rest of the public.

Mr. John Strachey (Minister of Food): Railwaymen who live in hostels normally have to give up their ration books, but there are special features in the case of train crews, and the possibility of making exceptional arrangements is being considered in consultation with the T.U.C. Advisory Committee.

Mr. Grimston: Is the Minister aware that this grievance has been allowed to

drag on for months, and will he take some initiative in getting the matter settled and the grievance redressed?

Mr. Strachey: I am meeting the committee on May 22, and I hope to get the matter settled then.

**Production of Steel Wagons**

Lt.-Colonel Granville Sharp (Spen Valley—Lab.) on May 23 asked the Minister of Transport what was the approximate number of steel mineral wagons now in use of a capacity of 15 tons or greater, and the percentage that bore to the total number of mineral wagons; what was the present monthly rate of production of such steel wagons; and the total expected production during 1947.

Mr. Alfred Barnes stated in a written answer: About 52,000, representing 7·3 per cent. of the total stock of mineral wagons. The present monthly rate of production is nearly 1,700, and the expected output for 1947 is 26,000.

**Railway Wagon Repairs**

Lt.-Colonel Granville Sharp (Spen Valley—Lab.) on May 21 asked the Minister of Transport how many railway wagons were now standing under or awaiting repair; how many had come in need of repair during 1947; and how many had actually been repaired during the same period.

Mr. Alfred Barnes in a written answer stated: On April 26, the latest available date, there were 142,311 railway wagons under and awaiting repair. During the 17 weeks to this date, 1,416,828 were received for repairs, excluding 146,375 outstanding at the end of 1946, and 1,420,892 were repaired and returned to traffic.

**Campaign Against Nationalisation**

Major D. W. T. Bruce (Portsmouth North—Lab.) on May 20 asked the President of the Board of Trade whether he would state the total paper tonnage allocated during the last 12 months to the organisers of the railway company and Road Haulage Association campaign against transport nationalisation for the purpose of that campaign; and whether he would grant a similar paper allocation to any non-governmental organisation or association wishing to reply to it.

Mr. J. W. Belcher (Parliamentary Secretary to the Board of Trade): No paper has been licensed for this purpose.

Major Bruce: Could the Parliamentary Secretary say where all this paper is coming from? Is he aware that hundreds of tons of paper are being wasted for this purpose at the present time; and will he make inquiries to see where the printers are getting the paper, when our provincial newspapers are in need of paper?

Mr. Belcher: The answer, of course, is that merchants and printers hold certain stocks which are not subject to licence, and if they care to sell them to the printers of these posters I cannot do anything about it.

Mr. W. Gallacher (West Fife—Comm.): Can the Parliamentary Secretary tell us how it comes about that there is so much paper available for publications of this kind, whereas it is impossible to get paper for the publication of a very important volume of the history of the Miners' Federation?

Mr. W. D. Kendall (Grantham—Ind.): As there seems to be plenty of paper available for all kinds of organisations, including the Secretary of State for War who has just got an additional four tons, will the Parliamentary Secretary see what can be done to give newspapers started since 1940 a chance of survival by modifying Paper Control Order No. 70?

Mr. Belcher: I am afraid that is an entirely different question. The original question was about posters.

**Empty Coal Wagons**

Major K. G. Younger (Grimsby—Lab.) on May 23 asked the Minister of Transport whether he was aware that about 1,000 empty coal wagons had remained standing in the sidings at Grimsby throughout the week-end of April 26, 1947; and whether, in view of the shortage of wagons, he would take steps to avoid such delays in future.

Mr. Alfred Barnes in a written answer stated: These wagons, which had discharged bunker coal, formed a reserve to meet the needs of collieries and also for imports, particularly pit props, through the port of Grimsby. During the week following April 20, however, sufficient empty coal wagons were available to all collieries and no loss of output occurred, nor was any tonnage put to ground because of a temporary shortage of wagons.

**Transport Rates and Fares**

Mr. J. Harrison (Nottingham East—Lab.) on May 21 asked the Minister of Transport if he would indicate the policy of his department towards the plea that rates and fares of road undertakings should be raised to bring them into line with rail charges, in view of the fact that that would sacrifice the important advantages to industrial and private individuals of an essential cheap form of transport.

Mr. Alfred Barnes stated in a written answer: It is not the practice to proceed on the basis that rates and fares of road transport undertakings should be increased automatically on the ground that they are lower than corresponding charges for rail transport.

The relationship existing between charges by different forms of transport is a question which will no doubt be fully investigated in due course if the machinery which has been proposed for dealing with these matters in the Transport Bill comes into operation.

**Transport in West Africa**

Mr. F. J. Erroll (Altrincham & Sale—C.) on May 7 asked the Secretary of State for the Colonies what action he intended to take to alleviate the transport situation revealed in the Oil Seeds Mission Report, Colonial 211, and what priority he would secure for locomotives and rolling stock for the Nigerian railways.

Mr. A. Creech Jones (Secretary of State for Colonies) in a written answer stated: The question of alleviating the transport situation in West Africa has received, and is receiving, my personal attention, and I have, in conjunction with Ministers concerned, done everything possible to speed up delivery of the large and various requirements. As Mr. Erroll is no doubt aware, demands on manufacturers for the production of railway materials have been, since the end of the war, of an extremely heavy nature.

No system of priorities, as understood during the war years, is now in operation; but close contact is being kept with firms concerned in the manufacture of all kinds of materials required by the Nigerian railways, including locomotives and wagons, track-laying material and spare parts, and every effort is being made to get supplies out to the colony with the least possible delay.

As regards the important question of locomotives, I am glad to say that the 14 locomotives ordered from Canada have now been completed, and it is expected that shipment of these will commence this month. The delivery of the 20 locomotives on order from the United Kingdom, which was scheduled to begin in August, has been set back, I regret to say, owing to the fuel crisis, and may not now be possible before the end of the year.

On the question of the future requirements of the Nigerian railways, orders have been placed for 42 locomotives and some 1,400 wagons for delivery between the years 1947 and 1952. It has been requested that equal consideration may be given to these requirements with those accorded to British railways.

**Travel to Northern Ireland**

Sir Ronald Ross (Londonderry—C.) on May 12 asked the Minister of Transport whether he was aware that sailing tickets for journeys to Northern Ireland were being brought into use early next month; and whether it was possible to avoid that serious inconvenience to the travelling public by putting more cross-channel steamers into use.

Mr. Alfred Barnes: Yes. Re-introduction for the summer period is necessary to avoid the inconvenience to the travelling public which would otherwise be experienced during a period of heavy travel. All available vessels will be in use at the peak periods.

Sir Ronald Ross: Does that mean that all the vessels normally employed and built for those services will be used, and would the Minister say what he considers to be the peak period?

Mr. Barnes: I do not wish to convey the impression that it will make their maximum number of sailings possible. We must have regard to the overall coal savings which the railways and similar services must obtain during this period, but undoubtedly they will be augmented.

Sir Ronald Ross: Will the Minister say if other services besides those carrying persons to Ireland will make a similar saving? So far it is entirely confined to services to Ireland.

Mr. Barnes did not reply.

**European Central Inland Transport Organisation**

Mr. Douglas Jay (Battersea, North—Lab.) on May 12 asked the Minister of Transport whether he expected that the European Central Inland Transport Organisation might have to shut down shortly owing to the failure of certain member governments to pay their agreed contributions towards its expenditure; what governments were involved; what were the amounts outstanding; and up to what date had full subscriptions been paid.

Mr. Alfred Barnes: The total amount of unpaid subscription at the present time is £129,500. Of this sum, £95,000 is represented by half of the U.S.S.R. subscription for the last financial year and the whole of its subscription for the current financial year. The delay in paying the balance of the other subscriptions arises, I understand, mainly from currency difficulties. The attention of the Soviet authorities has been drawn to the critical financial position in which the Organisation will shortly find itself if their outstanding subscriptions are not paid forthwith.

Viscount Hinchingbrooke (Dorset, Southern—C.): Does this organisation serve any important British interests, and, if not, why are we being asked as one of two Governments to raise our contribution?

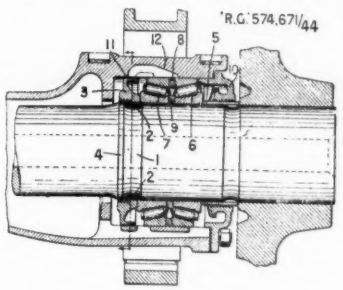
Mr. Barnes: We are not one of two Governments. I have replied to a specific question.

# ABSTRACTS OF RECENT PATENTS*

### No. 574,671. Axle Bearings

*British Timken Limited, of* 65, *Cheston Road, Aston, Birmingham,* 7. (*Application date: December* 22, 1944).

A roller bearing suitable for locomotives has a stress groove 1 in which fit two half rings 2 held in position by a

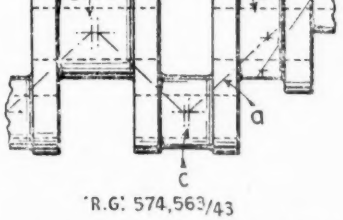



stepped thrust ring 3. The thrust surface 4 is of the same diameter as the bearing seat 5, and the half rings make contact only with the marginal portions of the groove 1. The taper roller bearings 6 and 7 are separated by spaces 8 and 9, and are held in position by a closure member 10. The thrust ring 3 may have a perforated rim 11 acting as an oil impeller to drive oil through the channel 12.

### No. 574,563. Crankshaft Oil Ducts

*Maudslay Motor Co. Ltd. and W. A. Lightowler, both of Parkside, Coventry.* (*Application date*: *November* 15, 1943).

In order to avoid drilling radial and axial passages in crankshafts and plugging




the unwanted sections, a single drilling *a* oblique to the axis of the crankshaft is made between each big-end bearing *b* and the adjacent crankshaft bearing *c*. Preferably, each main bearing supplies oil to both adjacent big-end bearings.

### No. 575,412. Controlling Exhaust Steam

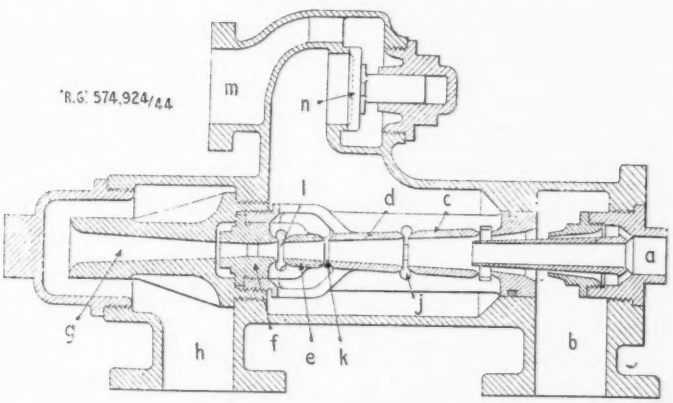
*R. R. McIntosh, of* 80, *East Avenue, North, Battle Creek, Michigan, U.S.A.* (*Convention date*: *April* 30, 1942).

The customary practice of discharging exhaust steam through a nozzle of fixed area into the smokestack to create draught, gives rise to excessive back-pressure in the cylinders when high powers are being developed; but in this invention the back-pressure generated in the exhaust stand is by-passed to the atmosphere through loaded valves which open at predetermined pressures. The size of the exhaust nozzle is such as to obtain the draught necessary for maximum operating conditions, while at lower outputs the by-pass valves close, and a sufficient draught for the reduced output is still maintained.

### No. 574,924. Steam Injector

*Davies & Metcalfe Limited, of Injector Works, Romiley, Cheshire.* (*Application date*: *July* 17, 1944).

A steam injector which has a steam inlet *a* and water inlet *b* feeding into a combining nozzle *c* and *d*, has the last section *e* of the combining nozzle made as a unit with the throat portion *f*, so that it

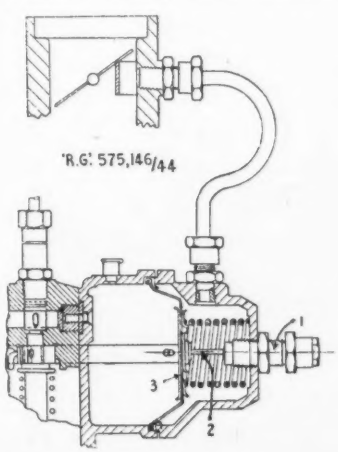



may be removed readily for renewal when worn. This unit is clamped between the combining nozzle and the delivery nozzle *g* which leads to the outlet *h*. Overflow gaps *j*, *k*, *l*, give access to overflow outlet *m* through valve *n*.

### No. 575,146. Controlling Fuel Injection Pumps

*Leyland Motors Limited, of Richmond Road, Kingston, Surrey, and G. J. Waring, of Leyland Motors Limited, Leyland, Lancs.* (*Application date*: *February* 25, 1944).

Where the movement of the fuel control rod is actuated by a suction-operated diaphragm, a normally closed valve 1 has




its stem 2 set adjacent to the diaphragm 3, so that, if an increase of speed occurs during idling, the valve is opened by the diaphragm and so reduces the suction thereon. This overcomes the hunting resulting from the delay in the response of the engine to the pump control.

### No. 575,226. Anti-Corrosive Coatings

*John Thompson* (*Kennicott Water Softeners*) *Limited, and G. T. Davison, both of Ettingshall Road, Wolverhampton.* (*Application date*: *March* 8, 1944).

A treatment for preventing corrosion and scale formation in boilers consists of first coating the metal surface with a suspension of graphite in a mixture of soap and alcohol, suggested proportions being 10 lb., ¼ lb., and 1 gal., respectively. This is applied by brushing or spraying, and allowed to dry. The treated surface is smoothed, and covered with a second coating of bitumen, a suitable composition being 1 lb. bitumen in 1 gal. of white spirit.

After drying, the surface is then polished. The metal surface need not be free from grease or moisture; the treatment needs no heat, and when finished is unaffected by high temperatures.

### No. 574,502. Superheaters

*The Superheater Co. Ltd. and A. P. J. Huet. Both of St. Margaret's Road, Bowdon, Altrincham, Cheshire.* (*Application date*: *February* 4, 1944).

When concentric steam superheater elements are fitted in smoke tubes of boilers, the stresses resulting from temperature differences between the outer and inner tubes are overcome by having the outer one of greater thickness or with fins, so that the modified rates of heat-flow through the tube maintain both inner and outer tubes at the same mean temperature.

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### Complete Specifications Accepted

**574,883.** Timken-Detroit Axle Company. Double reduction gear for driving axle.

**575,020.** Clayton-Wright, H. Resilient mounting.

**575,163.** Cook, F. F., and Pollard, E. Universal joint.

**575,186.** Harris Products Company. Resilient mounting.

**575,203.** Evered & Co. Ltd. and Wilson, A. H. Door handle.

**575,277.** Russell, Sidney, & Sons Ltd. and Russell, E. G. Door latch.

**575,310.** Hay, W. G. Rotary valve for internal-combustion engines.

**575,434.** Derbyshire Carriage & Wagon Co. Ltd. and Buxton, W. Drawbar cradle.

* These abridgments of recently published specifications are specially compiled for *The Railway Gazette*, by permission of the Controller of His Majesty's Stationery Office. Full specifications can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, price 1s. each

# Notes and News

**Agreed Charges.**—Application for the approval of 95 further agreed charges under the provisions of section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Railway Rates Tribunal. Notices of objection must be filed on or before June 10 next.

**L.N.E.R. Striking of Balances.**—Balances will be struck on Tuesday, June 10, 1947, in respect of the 3 per cent. and 4 per cent. debenture stocks and 4½ per cent. sinking fund debenture stock of the L.N.E.R. in connection with interest payments for the half-year ending June 30, 1947. See Official Notices on page 603.

**Wellington Grey & Bruce Railway Company.**—The estimated earnings of the Wellington Grey & Bruce Railway Company for the half-year to June 30 next, applicable to meet interest on the 7 per cent. bonds redeemed up to January 1, 1942, will admit the payment of £6 2s. 8d. per £100 bond. For details, see Official Notices, page 603.

**Hants & Dorset Motor Services Limited.**—A final dividend of 4½ per cent. maintains the ordinary tax-free dividend for the year ended March 31 at 9 per cent. In addition, the directors propose a special bonus of 10 per cent., free of tax. After providing for taxation, the net profit for the year was £137,618, an increase of £44,913.

**East Indian Railway Officers' Dinner.**—The 44th East Indian Railway Officers' annual dinner will take place at the Connaught Rooms, Great Queen Street, Kingsway, W.C.2, on Friday, June 27, at 6.30 for 7 p.m.; Chairman, Sir Robert Marriott. Tickets for members and their guests may be obtained from A. R. Gundry, c/o Rendel, Palmer & Tritton, 55, Broadway, Westminster, S.W.1, not later than June 16. Evening dress with miniature decorations will be worn; short coats optional.

**New Road at Port Talbot Docks.**—A reinforced concrete roadway built by the G.W.R. at Port Talbot Docks was opened to traffic on May 12. This road, some 1,950 ft. long and 20 ft. wide, connects Margam Wharf with Llewellyn Quay, and enables vehicles to travel to and from the north and south sides of the docks without the necessity of using the former roundabout route *via* the main trunk road outside the dock estate. The new thoroughfare, a section of which is shown in the photograph reproduced below, provides a useful link between the Margam works of Guest Keen & Baldwins Iron & Steel Co. Ltd. and Port Talbot Steel Works, and will reduce traffic congestion through the centre of the town.

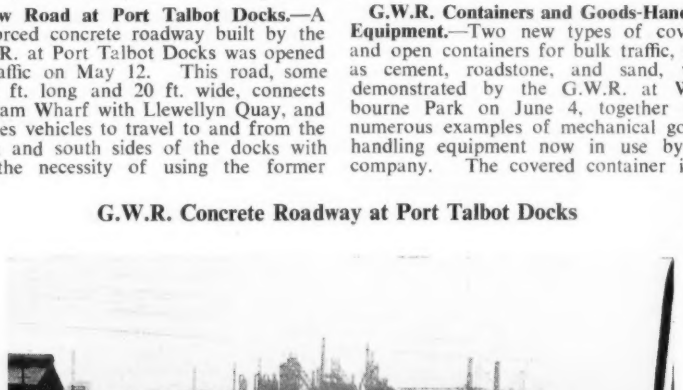
**Zonal Goods Scheme at Taunton, G.W.R.**—A new zone, based on Taunton, was put into operation in the G.W.R. zonal scheme on June 2. This is the 26th zone to be introduced, and soon 36 will cover the whole system. An area of 700 square miles is covered by the railhead at Taunton, and sub-railheads at Bridgwater, Minehead, Langport West, and Watchet. Previously, miscellaneous goods traffic in the area was handled at 24 stations.

**Argentine-Brazil Bridge Opened.**—The international road and rail bridge across the River Uruguay, linking Paso de los Libres on the Argentine bank with the Brazilian town of Uruguayana, was opened at an official ceremony on May 21. General Perón, President of Argentina, and General Dutra, President of Brazil, met one another in the middle of the bridge and exchanged greetings. The bridge, which is 1,537 yd. long, was described briefly in our July 27, 1945, issue.

**Enterprise Scotland 1947.**—At a press conference on June 4, the President of the Board of Trade, Sir Stafford Cripps, made a statement on the exhibition, "Enterprise Scotland 1947," and its relation to the export position. The Scottish Committee of the Government's Council of Industrial Design has organised the exhibition, which will open on August 25. The exhibition has been allotted 30,000 sq. ft. in the Royal Scottish Museum, Edinburgh, and will cover shipbuilding, printing, textiles, and consumer goods; nearly 1,000 firms have so far announced their intention to submit goods for selection.

**G.W.R. Containers and Goods-Handling Equipment.**—Two new types of covered and open containers for bulk traffic, such as cement, roadstone, and sand, were demonstrated by the G.W.R. at Westbourne Park on June 4, together with numerous examples of mechanical goods-handling equipment now in use by the company. The covered container is of 3½ tons capacity, with gravity discharge. This type is being used for transport of cement in connection with the construction of the new Rhayader dam. The open container has similar characteristics, and is used for traffic not requiring protection from the weather. Both types are characterised by simple and rapid discharge arrangements. A collapsible container, designed specially for handling empty crates returned from markets, also was shown.

## G.W.R. Concrete Roadway at Port Talbot Docks



*A section of the new roadway at Port Talbot Docks connecting Margam Wharf with Llewellyn Quay (see paragraph above)*

# British and Irish Railway Stocks and Shares

| Stocks | Highest 1946 | Lowest 1946 | Prices June 3, 1947 | Rise Fall |
|---|---|---|---|---|
| **G.W.R.** | | | | |
| Cons. Ord. ... ... | 61½ | 54½ | 55 | + ½ |
| 5% Con. Pref. ... | 126½ | 107 | 118½ | — |
| 5% Red. Pref. (1950) | 106½ | 102½ | 104½ | — |
| 5% Rt. Charge ... | 140½ | 122½ | 133½ | — |
| 5% Cons. Guar. ... | 137½ | 118½ | 130½ | — |
| 4% Deb. ... ... | 129½ | 106 | 123½ | — ½ |
| 4½% Deb. ... ... | 129½ | 107 | 124½ | — |
| 4½% Deb. ... ... | 130½ | 114 | 125½ | — |
| 5% Deb. ... ... | 142½ | 125 | 137½ | — |
| 2½% Deb. ... ... | 95½ | 81½ | 92½ | — |
| **L.M.S.R.** | | | | |
| Ord. ... ... ... | 30½ | 26½ | 27½ | + ½ |
| 4% Pref. (1923) ... | 64 | 52½ | 58½ | + ½ |
| 4% Pref. ... ... | 86 | 75½ | 79½ | — |
| 5% Red. Pref. (1955) | 105½ | 97 | 100½ | — 1 |
| 4% Guar. ... ... | 108½ | 100 | 102½ | — |
| 4% Deb. ... ... | 120 | 103 | 113½ | — |
| 5% Red. Deb. (1952) | 108½ | 105½ | 104½ | — |
| **L.N.E.R.** | | | | |
| 5% Pref. Ord. ... | 7 | 5 | 6½ | — |
| Def. Ord. ... ... | 3½ | 2½ | 3½ | — |
| 4% First Pref. ... | 59½ | 50½ | 54½ | + ½ |
| 4% Second Pref. ... | 29½ | 25¾ | 27½ | + ½ |
| 5% Red. Pref. (1955) | 104 | 97 | 98½ | — |
| 4% First Guar. ... | 107 | 98 | 101½ | — |
| 4% Second Guar. ... | 101 | 90 | 95 | — |
| 3% Deb. ... ... | 104 | 87½ | 98½ | — |
| 4% Deb. ... ... | 119½ | 102½ | 113½ | — |
| 4½% Sinking Fund Red. Deb. ... ... | 107½ | 101½ | 103½ | — |
| **SOUTHERN** | | | | |
| Pref. Ord. ... ... | 79½ | 70 | 72 | — |
| Def. Ord. ... ... | 24 | 19½ | 22½ | — |
| 5% Pref. ... ... | 125½ | 107 | 118½ | — |
| 5% Red. Pref. (1964) | 115½ | 106½ | 111½ | — |
| 5% Guar. Pref. ... | 137½ | 119 | 130½ | — |
| 5% Red. Guar. Pref. (1957) ... ... | 115½ | 107½ | 111½ | — |
| 4% Deb. ... ... | 129½ | 105½ | 123½ | — |
| 5% Deb. ... ... | 139½ | 125½ | 134½ | — |
| 4% Red. Deb. (1962-67) ... ... ... | 113½ | 104½ | 110½ | — |
| 4% Red. Deb. (1970-80) ... ... ... | 115½ | 104½ | 111½ | — |
| **FORTH BRIDGE** | | | | |
| 4% Deb. ... ... | 109 | 103 | 103½ | — |
| 4% Guar. ... ... | 105 | 102 | 99½ | — |
| **L.P.T.B.** | | | | |
| 4½ "A" ... ... | 133½ | 120½ | 125½xd | — 2 |
| 5% "A" ... ... | 142½ | 130½ | 134½xd | — 2 |
| 3% Guar. (1967-72) ... | 108 | 98½ | 104½xd | — ½ |
| 5% "B" ... ... | 128½ | 117½ | 121½xd | — 2 |
| "C" ... ... ... | 64½ | 56½ | 62½ | — |
| **MERSEY** | | | | |
| Ord. ... ... ... | 34 | 30 | 33 | — |
| 3% Perp. Pref. ... | 76 | 69 | 72½ | — |
| 4% Perp. Deb. ... | 117½ | 103 | 111 | — |
| 3% Perp. Deb. ... | 98 | 81 | 92½ | — |
| **IRELAND*** | | | | |
| **BELFAST & C.D.** | | | | |
| Ord. ... ... ... | 8½ | 6 | 7½ | — |
| **G. NORTHERN** | | | | |
| Ord. ... ... ... | 41⅞ | 30½ | 31½ | + ½ |
| Pref. ... ... ... | 63⅜ | 52 | 50 | — |
| Guar. ... ... ... | 97½ | 78½ | 89½ | — |
| Deb. ... ... ... | 107 | 97½ | 100½ | — ½ |
| **IRISH TRANSPORT** | | | | |
| Common ... ... | 19/2½ | 16/9 | 16/- | + 6d |
| 3% Deb. ... ... | 107 | 100 | 105 | — |

* Latest available quotation

# OFFICIAL NOTICES

## London & North Eastern Railway Company

NOTICE IS HEREBY GIVEN that on Tuesday, June 10, 1947, Balances will be Struck in respect of the 3 per cent. and 4 per cent. Debenture Stocks and 4½ per cent. Sinking Fund Debenture Stock of the Company in connection with interest payment for the half-year ending June 30, 1947.

Interest will be payable to the persons whose names are registered in the books of the Company on June 10, 1947.

W. H. JOHNSON,
Secretary of the Company

Marylebone Station,
London, N.W.1.
May 31 1947

**4-8-2** CLASS "15F" LOCOMOTIVES FOR THE SOUTH AFRICAN RAILWAYS. The latest examples of these main-line passenger and freight locomotives have been built by the North British Locomotive Co. Ltd. Reprinted from *The Railway Gazette* of September 20, 1946. *Price* 2*s*. *By post* 2*s*. 2*d*.

## Canadian National Railway Company

WELLINGTON GREY & BRUCE RAILWAY COMPANY 7% BONDS

NOTICE IS HEREBY GIVEN that the estimated earnings of the Wellington Grey & Bruce Railway Company for the half year ending 30th June, 1947, applicable to meet outstanding interest on the above Bonds redeemed up to and including 1st January, 1942, will admit of the payment of £6 2s. 8d. per £100 Bond, and that this payment will be applied, as follows, *viz.*:—

£2 16s. 9d., Balance due for Coupon No. 141 due 1st January, 1941, and £3 5s. 11d. on account of Coupon No. 142, due 1st July, 1941, and will be made on and after 1st July, 1947, at the offices of the Canadian National Railway Company, Orient House, 42-45, New Broad Street, London, E.C.2, England.

The coupons must be left three clear days for examination.

A. H. CONEYBEARE,
European Secretary & Treasurer

London,
31st May, 1947.

BELLMAN HANGARS for workshops, storage, etc., supplied and erected under licence. 89 ft. 5 in. clear span, 18 ft. clear height, 175 ft. long. Door openings for full width at each end if required.—BELLMAN HANGARS LIMITED, Terminal House, Grosvenor Gardens, London, S.W.1. Sloane 5259.

THE CORONATION SCOT. New 4-6-2 locomotive and 9-coach trains built specially for working the L.M.S.R accelerated 6½-hour express service. Paper. 12 in. by 9 in. 16 pp. Folding plate. Illustrations and diagrams. 3*s*. *By post* 3*s*. 2*d*.

RAILWAY AMALGAMATION IN GREAT BRITAIN. By W. E. Simnett. An authoritative account of the course of railway amalgamation in Great Britain up to the end of 1923. Cloth. 8½ in. by 5½ in. 276 pp. 15*s*. *By post* 15*s*. 7*d*.

RAILWAYS AND NATIONALISATION. By E. A. Pratt. A book for those who wish to study the question from the point of view of practical politics. Cloth. 7½ in. by 5½ in. 454 pp. 2*s*. *By post* 2*s*. 10*d*.

**The Bulter Machine Tool Co. Ltd.**—At a board meeting of the company held at Halifax on May 21, the directors resolved that a dividend on the 5 per cent. cumulative preference shares for the six months to June 30, 1947, be paid, less income tax at 9s. in the £. In order that transferees may receive this dividend, transfer deeds must be lodged with the company's registrars by 12 noon on June 14. Dividend warrants in respect of this dividend will be posted on June 28, and the dividend is payable on June 30.

**L.M.S.R. Derailment near Bletchley.**—Six coaches at the rear of the 2.50 p.m. L.M.S.R. express were derailed when the train was travelling about 1½ miles north of Bletchley on May 29. A coupling broke, and the front portion of the train ran on for half a mile. The last two coaches of this part of the train were derailed, but remained upright, and no one was injured in them. About 30 passengers in the rear six coaches suffered from cuts and shock. A following train was stopped to convey injured passengers to Northampton, and a relief was put on to enable the remainder to continue.

**Present Position and Tendencies in Road Motor Vehicles.**—Members of the Institute of Transport have been invited to attend a meeting of the Institution of Mechanical Engineers on June 13 at 10.30 a.m., when an estimate of the present position and tendencies in road motor vehicles will be presented in the form of three short papers:—"Private Vehicles," by Mr. Maurice Platt, M.Eng., M.I.Mech.E.; "Public Service Vehicles," by Mr. D. M. Sinclair, M.Inst.T.; "Goods Vehicles," by Mr. V. W. Pilkington, M.B.E., M.Eng., M.I.Mech.E. Admission to the meeting will be by ticket, which should be applied for by members of the Institute of Transport to the Secretary of the Institute, 15, Savoy Street, Victoria Embankment, London, W.C.2.

**West Hartlepool Centenary Celebrations.**—Sir Charles Newton, Chief General Manager, L.N.E.R., proposed the toast of "The Port and Town of West Hartlepool" at a civic dinner held on June 2 in connection with the centenary celebrations. He recalled that West Hartlepool harbour and dock had been opened amidst great enthusiasm on June 1, 1865. The Hartlepool system of docks was taken over by the railway in 1857, and that of West Hartlepool in 1865. From that date onwards the fortunes of the railway and the borough had been closely interlinked, and he could assert that their relationship had been a consistently happy one. The L.N.E.R. and the traders of the Hartlepools had developed and built up together one of the great ports of the United Kingdom. Now, under the Transport Bill, this intimate association might have to be severed, the railway coming under one Government authority, and the docks and harbours under another. He confessed he did not see upon what logical basis this was being done. Perhaps some civil servant in Whitehall, having a tidy mind, took objection to the close link-up between railway and shipping facilities which was essential to port organisation; and, acting on the precept that trains ran on land, but ports served ships, decided that they came under separate administrations.

**Services at Parkgate & Aldwarke, L.N.E.R.**—Although the summer opening on Sundays of Parkgate & Aldwarke Station will not begin officially until June 22, arrangements have been made by the L.N.E.R. to accommodate angling traffic by stopping the following trains at the station: 8.7 a.m. Sheffield Victoria to Doncaster Central at 8.29; 8.15 a.m. Doncaster Central to Sheffield Victoria at 8.43; and 8.40 p.m. Doncaster Central to Sheffield Victoria at 9.10 p.m.

**Recent L.M.S.R. Contracts.**—A contract has been placed by the L.M.S.R. with Dowsett Engineering Construction Limited, Tallington, Lincs., for the construction of tank foundations, paving, and drainage in connection with fuelling facilities for oil-burning locomotives at Hasland, Staveley, Westhouses (Derbyshire), and Kirkby-in-Ashfield motive power depots. The company also has placed an order with Arthur Waterman Limited, Leeds, for parapet repairs to the 47-arch viaduct which carries four tracks over several streets at Huddersfield Station; and with Ashmore Contractors Limited, 124, Victoria Street, London, S.W.1, for general repairs to its depot in Commercial Road, London, E.1.

**Yorkshire Woollen District Transport Co. Ltd.**—Referring to the promotion of co-ordination between all forms of surface transport aimed at in the Transport Bill, Mr. W. T. James, Chairman of the Yorkshire Woollen District Transport Co. Ltd., said at the recent general meeting of the company that they had recognised the benefits of co-ordination years ago, and had applied its principles long since. They had such arrangements with a number of local authorities and some 10 private operators; interavailability of tickets and other working arrangements with the L.M.S.R. and L.N.E.R. had been in force for many years. Mr. James said that even its strongest critics never had accused road transport of inefficiency or lack of vision. To create such a vast upheaval at a time when all energies of the industry should be devoted to speeding up post-war recovery, could not in his view be regarded otherwise than as a first class example of ideological planning run riot.

**Renaming of Corby Station, L.N.E.R.**—The L.N.E.R. announces that in an endeavour to eliminate difficulties which arise as a result of passengers, parcels, goods, and letters for Corby (Lincs.), L.N.E.R., arriving at Corby & Weldon (Northants.), and *vice versa*, it has been decided to rename Corby (Lincs.) Station "Corby Glen" as from June 16 next.

**European Inland Transport.**—Proposals have been put forward by the British Government for reorganising the inland transport section of the Economic Commission for Europe. It is proposed to set up a European Transport Committee, which would have the task of stimulating international co-operation. It would encourage freedom of transit by the removal of discrimination in all its forms, and the elimination of unnecessary Government restrictions. It is recommended that the census, identification, and restitution of rolling stock and inland waterway and harbour craft performed hitherto by the European Central Inland Transport Organisation should be carried to completion, and that all its other activities should be handed over to the new transport committee for action where necessary.

**Closing of C.I.E. Minor Stations.**—To enable more efficient service to be given, Coras Iompair Eireann (Irish Transport Company) will close 20 minor railway stations on the midland, southern, and south-eastern main lines in the vicinity of Dublin with effect from June 9. The stations are:—

*Midland section.*—Lucan North, Leixlip, Maynooth, Kilcock, Ferns Lock, Enfield, Moyvalley, Kill-of-Down Killucan.

*Southern section.*—Clondalkin, Lucan South, Hazlehatch, Straffan, Sallins.

*South-Eastern section.*—Kilcool, Newcastle, Rathnew, Woodenbridge, Inch, Camolin.

Lorry services will be provided in place of the rail goods services withdrawn. For passengers, trains now scheduled to halt at these stations will continue to do so until further notice, but there are bus services in all the districts named. It has been found that goods can be carried to and from all these districts by C.I.E. lorries more efficiently than by rail.

# Railway Stock Market

Earlier in the week stock markets displayed a cautious attitude, awaiting the news from India, but with the commencement of the new account buying interest tended to revive in most sections; leading industrial shares were particularly favoured. British Funds, however, have remained easier, the prevailing assumption being that for the time being Mr. Dalton can do little more than attempt to consolidate his cheaper money policy.

With growing fears as to the effects of the dollar shortage, and the convertibility of sterling fixed for next month, the outlook must be difficult, and consequently it is not surprising that buyers are showing caution. Opinions differ whether further inflation will be heralded by the pending developments, or whether a period of deflation will ensue.

Nevertheless, there has been good buying of industrial leaders, including Imperial Chemicals, Dunlops, and Distillers. Much of the demand for industrials was attributed to re-investment on the part of investors who decided to sell Argentine rails after the recent announcement of the "share-out" terms.

It is true, of course, that many comparatively recent holders purchased well below current levels, but on the other hand, with existing prices of Argentine rails well below the share-out prices, these stocks have attractions as a holding for the eventual cash distribution. Those who are selling and re-investing into industrial shares, are probably taking the view that it may be prudent to purchase now because they feel that the upward trend in market values is likely to continue. There has been a fair volume of selling of Argentine railway debentures, which at the time of writing are in some cases as much as eight points below their share-out levels.

There was nevertheless general satisfaction with the share-out terms as announced by the British-Argentine Railway Council, and it was felt in the City that all concerned should be congratulated for the efficiency and celerity with which matters have been carried out. Immediately after the announcement, prices were adjusted to accord with the terms, but this process was interrupted by selling on the part of holders who wished to take profits at this stage and re-invest in other securities. Moreover, in recent weeks buying of preference stocks of some of the leading companies had carried prices to levels which proved to be above the actual share-out terms. At one time Buenos Ayres Western ordinary was a point above the share-out level of 25, this being due to hopes that the total payment eventually might prove to be well above the share-out figure. Subsequently, however, it was more generally realised that although the calculations have probably been on conservative lines, the actual total that eventually will be distributed on individual ordinary or equity stocks is extremely unlikely to be more than fractionally above the share-out totals as already announced.

A certain amount of selling of Argentine rails for re-investment into home rails has been reported, but this was probably mainly by institutional investors attracted by the fact that home rails are still well below their take-over levels. If home rails are still around current prices by the end of October (which would seem unlikely) when it is hoped to repay the loan capital of the Argentine rails, home rails would be an attractive avenue for re-investment, bearing in mind that they offer an indirect means of acquiring an interest in British Funds. At the time of writing the decline in Argentine rails earlier in the week appears to be attracting attention; and it would seem that buyers will be more in evidence as it becomes more generally known that current market prices are well below the share-out levels.

There has again been a fair amount of speculative activity in Brazilian railway stocks, due to renewed talk that sooner or later Brazil will take over the railways. Leopoldina at 14¾ failed to hold all an earlier rally, and Great Western of Brazil was 80s. On the other hand, San Paulo (188) has been firm, expectations prevailing of a satisfactory settlement regarding payment for the company's "outside" assets. Antofagasta preference strengthened to 65½. Canadian Pacifics were firmer at 17, but later eased to 16⅞.

Movements in home rails were again small, business remaining on moderate lines, although the junior stocks were tending to attract more attention on hopeful market views as to interim payments in the autumn. Great Western ordinary strengthened to 54¾ and L.N.E.R. second preference to 27¼.

LIVERPOOL OVERHEAD RAILWAY RECEIPTS.—Traffics on the Liverpool Overhead Railway for the five months to June 1 totalled £59,857, a decrease of £4,457 compared with the preceding year. In the week ending June 1 receipts were £2,892, or £62 below the corresponding week of 1946.

## Traffic Table and Stock Prices of Overseas and Foreign Railways

| | Railways | Miles open | Week ended | Traffic for week: Total this year | Traffic for week: Inc. or dec. compared with 1945/6 | No. of Week | Aggregate traffics to date: Totals 1946/7 | Aggregate traffics to date: Totals 1945/6 | Aggregate traffics to date: Increase or decrease | Shares or Stock | Prices: Highest 1945 | Prices: Lowest 1945 | Prices: June 3, 1947 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | £ | £ | | £ | £ | £ | | | | |
| South & Central America | Antofagasta ... ... ... | 834 | 25.5.47 | 44,520 | + 13,570 | 21 | 813,210 | 692,250 | + 120,960 | Ord. Stk. | 12 | 8¾ | 15½ |
| | Arg. N.E. ... ... ... | 753 | 24.5.47 | ps.349,100 | +ps.77,600 | 47 | ps.15,080,100 | ps.13,877,200 | +ps.1,202,900 | ,, | 10 | 5¾ | 11 |
| | Bolivar ... ... ... | 174 | Apr., 1947 | $109,336 | — $1,089 | 17 | $449,648 | $464,650 | — $15,002 | 6 p.c. Deb. | 8½ | 5½ | 15 |
| | Brazil ... ... ... | — | — | — | — | — | — | — | — | Bonds | 25 | 17 | 35 |
| | B.A. Pacific ... ... ... | 2,771 | 24.5.47 | ps.2,500,000 | +ps.215,000 | 47 | ps.114,177,000 | ps.107,648,000 | +ps.6,529,000 | Ord. Stk. | 7 | 5 | 10¼ |
| | B.A.G.S. ... ... ... | 5,080 | 24.5.47 | ps.3,348,000 | +ps.228,000 | 47 | ps.171,012,000 | ps.167,993,000 | + ps.3,019,000 | Ord. Stk. | 13¾ | 10¼ | 18 |
| | B.A. Western... ... ... | 1,924 | 24.5.47 | ps.1,312,000 | +ps. 83,000 | 47 | ps.62,370,000 | ps.56,691,000 | + ps.5,679,000 | ,, | 12¾ | 9½ | 24 |
| | Cent. Argentine ... ... | 3,700 | 24.5.47 | ps.3,215,995 | ps + 87,685 | 47 | ps.151,552,580 | ps.148,458,006 | + ps.3,094,574 | ,, | 9¾ | 7 | 19 |
| | Do. ... ... | — | — | — | — | — | — | — | — | Dfd. | 5 | 2⅜ | 14 |
| | Cent. Uruguay ... ... | 970 | 24.5.47 | 10,770 | — 32,385 | 47 | 1,730,265 | 1,869,336 | — 139,071 | Ord. Stk. | 7¼ | 4 | 22½ |
| | Costa Rica ... ... ... | 262 | Mar., 1947 | 32,528 | + 1,760 | 39 | 252,900 | 252,872 | + 28 | Stk. | 16½ | 13 | 12 |
| | Dorada ... ... ... | 70 | Apr., 1947 | 29,700 | + 400 | 17 | 119,200 | 115,275 | + 3,925 | 1 Mt. Deb. | 103 | 102 | 106½ |
| | Entre Rios ... ... ... | 808 | 24.5.47 | ps.427,900 | +ps.30,500 | 47 | ps.20,149,900 | ps.19,949,500 | + ps.200,400 | Ord. Stk. | 7½ | 4½ | 10 |
| | G.W. of Brazil ... ... | 1,030 | 24.5.47 | 22,100 | — 2,300 | 21 | 726,200 | 613,900 | + 112,300 | Ord. Stk. | 30/- | 23/6 | 4½ |
| | Inter. Ctl. Amer. ... ... | 794 | Apr., 1947 | $1,158,970 | + $195,190 | 17 | $4,750,346 | $3,878,475 | + $871,871 | — | — | — | — |
| | La Guaira ... ... ... | 22¾ | Apr., 1947 | $101,968 | — $11,228 | 17 | $457,043 | $460,888 | — $3,845 | 5 p.c. Deb. | 78 | 70 | 87½ |
| | Leopoldina ... ... ... | 1,98 | 24.5.47 | 61,016 | + 26,643 | 21 | 1,326,275 | 1,156,313 | + 169,962 | Ord. Stk. | 4½ | 3½ | 14½ |
| | Mexican ... ... ... | 483 | 31.5.46 | ps.1,464,000 | +ps.459,100 | 22 | ps.7,706,200 | ps.13,441,600 | +ps.5,220,200 | Ord. Stk. | ¼ | ¼ | ¾ |
| | Midland Uruguay ... ... | 319 | Apr., 1947 | 17,503 | + 343 | 43 | 167,262 | 181,451 | — 14,189 | — | — | — | — |
| | Nitrate ... ... ... | 382 | 15.5.47 | 9,756 | + 2,633 | 19 | 80,185 | 83,031 | — 2,846 | Ord. Sh. | 75/6 | 67/6 | 85/- |
| | N.W. of Uruguay ... ... | 113 | Apr., 1947 | 4,477 | — 657 | 44 | 53,910 | 54,507 | — 597 | — | — | — | — |
| | Paraguay Cent. ... ... | 274 | 23.5.47 | ₲72,136 | + ₲18,116 | 47 | ₲2,956,310 | ₲2,858,294 | + ₲98,016 | Pr.Li.Stk. | 79¾ | 77 | 80½ |
| | Peru Corp. ... ... ... | 1,059 | Apr., 1947 | 161,601 | + 12,510 | 43 | 1,518,215 | 1,401,933 | + 116,282 | Pref. | 10⅜ | 7¾ | 10 |
| | Salvador ... ... ... | 100 | Mar., 1947 | c209,000 | + c34,000 | 39 | c1,338,000 | c1,255,000 | + c83,000 | — | — | — | — |
| | San Paulo ... ... ... | 153½ | — | — | — | — | — | — | — | Ord. Stk. | 60¾ | 50½ | 186½ |
| | Taltal ... ... ... | 156 | Apr., 1947 | 3,385 | — 1,795 | 43 | 41,015 | 33,200 | + 7,815 | Ord. Sh. | 17/- | 10/6 | 20/- |
| | United of Havana ... ... | 1,301 | 18.5.47 | 102,990 | + 32,254 | 46 | 3,124,971 | 2,736,390 | + 338,581 | Ord. Stk. | 3 | 1 | 3 |
| | Uruguay Northern ... ... | 73 | Apr., 1947 | 1,438 | — 145 | 43 | 12,767 | 17,350 | — 4,583 | — | — | — | — |
| Canada | Canadian National ... ... | 23,535 | Feb., 1947 | 7,767,000 | + 553,250 | 8 | 15,981,500 | 14,939,000 | + 1,042,500 | — | — | — | — |
| | Canadian Pacific ... ... | 17,037 | 21.5.47 | 1,524,500 | + 280,750 | 20 | 28,841,750 | 27,207,500 | + 1,634,250 | Ord. Stk. | 24 | 14⅜ | 16½ |
| Various | Barsi Light† ... ... ... | 202 | Mar., 1947 | 26,032 | + 3,375 | 52 | 271,575 | 272,272 | — 697 | Ord. Stk. | 131 | 123 | 112½ |
| | Beira ... ... ... ... | 204 | Feb., 1947 | 90,568 | + 24,422 | 20 | 446,240 | 352,628 | + 93,612 | — | — | — | — |
| | Egyptian Delta ... ... | 607 | 20.4.47 | 15,556 | — 909 | 3 | 33,178 | 33,174 | + 4 | Prf. Sh. | 10 | 8½ | 6½ |
| | Manila ... ... ... | — | — | — | — | — | — | — | — | B. Deb. | 71 | 55½ | 70 |
| | Mid. of W. Australia ... | 277 | Mar., 1947 | 18,239 | — 127 | 39 | 148,908 | 152,484 | — 3,576 | Inc. Deb. | 97½ | 85 | 65 |
| | Nigeria ... ... ... | 1,900 | Mar., 1947 | 447,389 | — 28,271 | 52 | 4,645,226 | 3,636,760 | + 1,008,466 | — | — | — | — |
| | Rhodesia ... ... ... | 2,445 | Feb., 1947 | 533,750 | + 67,632 | 20 | 2,761,173 | 2,476,064 | + 285,109 | — | — | — | — |
| | South African ... ... | 13,323 | 3.5.47 | 1,313,860 | + 205,991 | 5 | 5,815,979 | 5,197,856 | + 618,123 | — | — | — | — |
| | Victoria ... ... ... | 4,774 | Jan., 1947 | 1,314,795 | + 110,075 | 30 | — | — | — | — | — | — | — |

† Receipts are calculated @ 1s. 6d. to the rupee